Australian

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Magazine

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$1.00*

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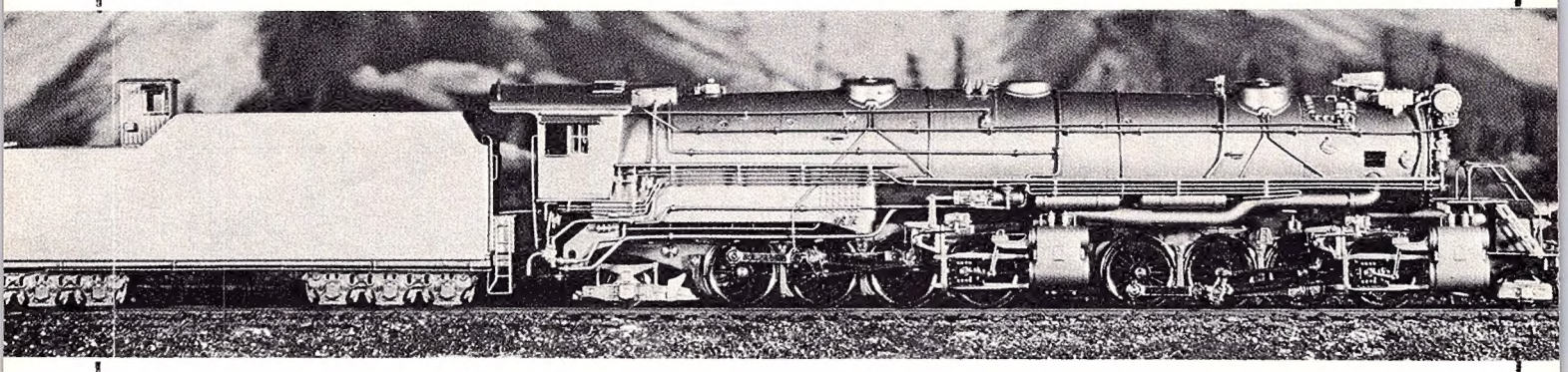
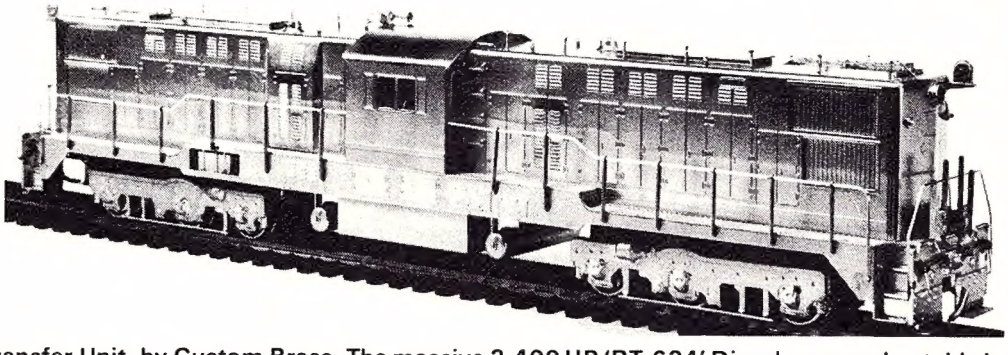
* Recommended retail price only.

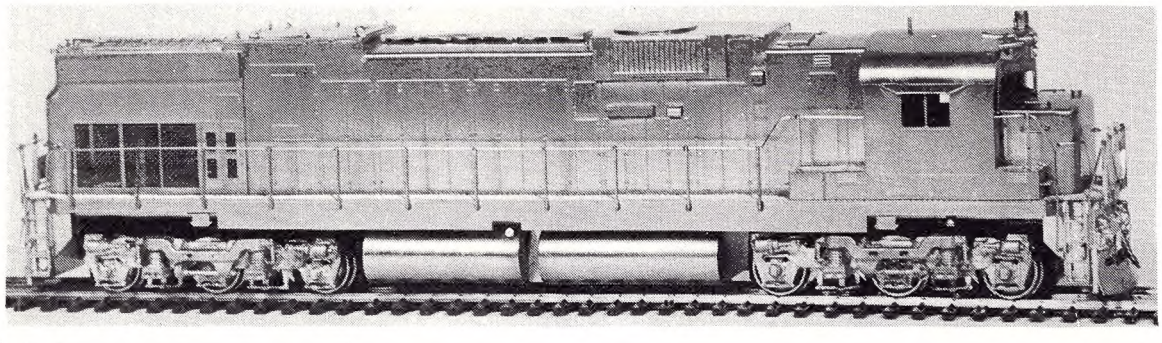
NEW MOTIVE POWER . . .
— NOW ON THE 'READY TRACK' . .



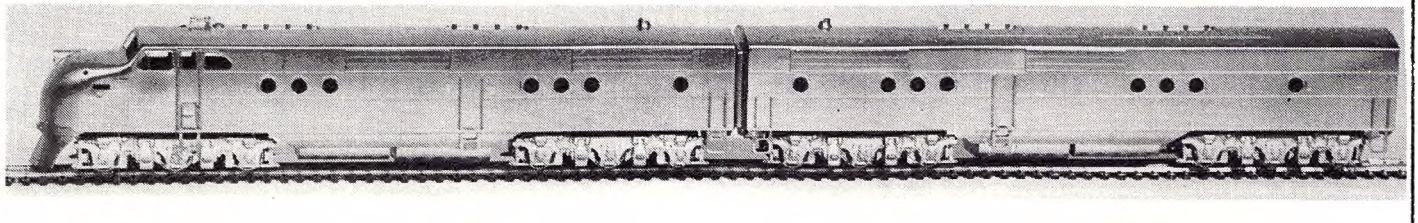
D.& R.G.W. 'L-131' 2-8-2 Locomotive & Tender, from the shops of "United". 16⅝" long overall, weight 24 oz. Fitted with improved drive system, closed frame cylindrical motor and fully detailed, removable cab.
PRICE: $750.00



Baldwin Transfer Unit, by Custom Brass. The massive 2,400 HP 'RT-624' Diesel was used notably by the Pennsy. Powered by 'Can' motor, with all axles geared.
PRICE: $277.95



Alco 'C-636' 3,600 HP Road Switcher, from the shops of Alco Models. Powered by 'Can' motor, with drive to all axles by enclosed gear boxes.
PRICE: $267.70



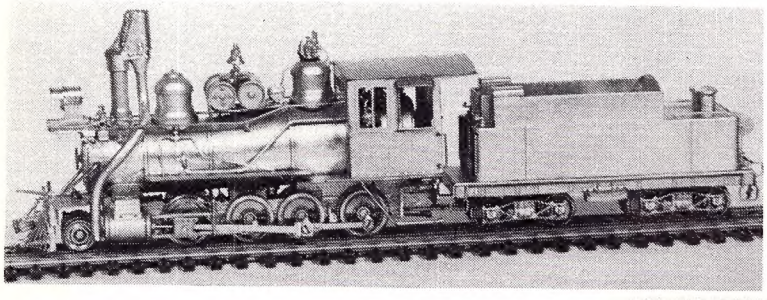
EMC 'E-2' A. & B. Diesel Units. These classic beauties which won fame pulling the classy UP/CNW "City of Los Angeles" and UP/SP/CNW "City of San Francisco" are new from Oriental Limited.
Both units come powered.
PRICE: $560.15

SOLE AGENT & IMPORTER

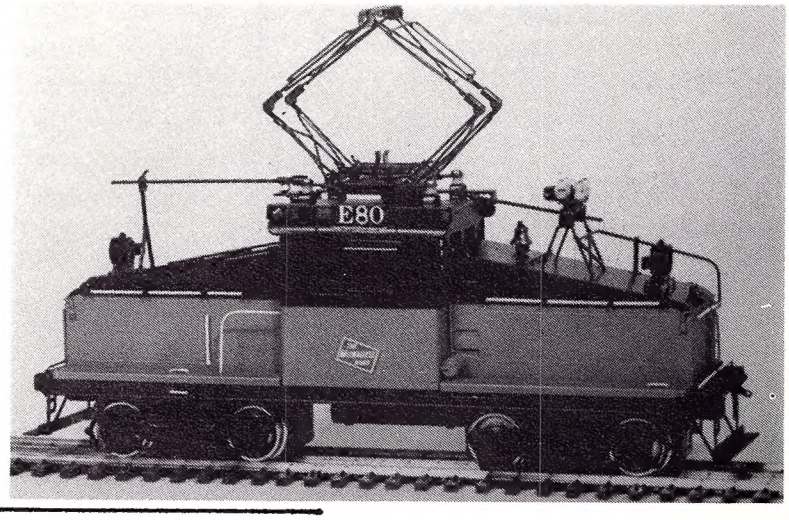
THE MODEL DOCKYARD PTY. LTD.

216-218 SWANSTON ST. MELBOURNE. PHONE: 663 3505

NEW MOTIVE POWER . . .
— NOW ON THE 'READY TRACK' —



The Colorado & Southern's 3' lines were the home of some distinctive little Moguls and Consolidations. 'Different looking' because of the "Ridgeway" cinder catchers and the air tanks mounted atop the boilers. Key Models now offer, in HOn3, the #71 Series 2-8-0 Locomotive & Tender, with removable cinder catcher, detailed cab interior, hidden drive and all the external detail of the prototype. PRICE: $319.35
(to follow soon: HOn3 C.& S. #22 Series Mogul)



Nickel Plate Products present this fine model of the Milwaukee Road 'ES-2' Series Electric Locomotive. Suitable for 2-rail and/or overhead operation. Locmotive is geared on all axles and comes painted. PRICE: $267.70

Other News from the *DOCKYARD* . . .

For narrow gaugers working in HOn3, first stocks are now available of the new E&B Valley RR Co Car Kits. Of injection moulded styrene, these Kits have received high praise and critical acclaim from all sectors of the American model railroad press. Stocks comprise: RGS '0404'Caboose Kit, $17.60; D & RGW Short Caboose Kit, $22.25; D & RGW #319 Coach with open platforms, $22.25 and D & RGW #319 Coach with vestibuled ends, $22.25 . . . Opening stocks of the fine, new Mainline Railways' British prototype range of OO/HO Locomotives and Rolling Stock are now available. For full details, see the colour Catalogue & Price List @ $2.25. Postage, 50¢ extra . . . To make way for new 'brass' scheduled for delivery in the time ahead, we are now offering the following special discount deals, whilst stocks remain: HO Gem Models 4-6-0 NYC 'F12C' Loco & Tender @ $135.00 (was $184.75), Gem Models 0-4-0 PRR 'A5s' Switcher & Tender @ $111.00 (was $154.70), Westside Models 4-4-2 UP Loco & Tender @ $120.00 (was $157.50), United 4-6-0 L & A Loco & Tender @ $119.00 (was $151.75), Westside Models 4-8-2 SP 'MT-5' Loco & Tender @ $317.00 (was $370.00), Tenshodo 4-8-2 GN 'P-2' Loco & Tender @ $271.00 (was $349.50), Nickel Plate Products 4-6-0 NYO & W Camel-back & Tender @ $115.00 (was $151.90), Nickel Plate Products 2-6-0 NYO & W Camel-back & Tender @ $115.00 (was $151.90), Nickel Plate Products 4-6-4 NKP Loco & Tender @ $165.00 (was $219.50), Hallmark Models 4-8-2 Wabash Loco & Tender @ $175.00 (was $233.50), Alco Models 2-8-4 P & LE Loco & Tender @ $190.00 (was $249.60), Westside Models Western Pacific Bay Window & Caboose @ $29.95 (was $36.00), Hallmark Models 4-8-4 Wabash 'O-1' Loco & Tender @ $178.00 (was $249.00), Hallmark Models 2-8-0 Frisco '1306' Loco & Tender @ $251.00 (was $296.00), Hallmark Models MKT 400 Series Observation Car @ $34.00 (was $46.50), Hallmark Models MKT 900 Series Steel Chair Car @ $26.00 (was $32.55), Hallmark Models MKT 496 Series Solarium-Lounge Car @ $27.50 (was $34.75), Hallmark Models MKT 438 Series 36 Seat Dining Car @ $26.00 (was $33.95), Hallmark Models MKT Steel Baggage Car @ $29.00 (was $37.45), Nickel Plate Products NYO & W Observation Car @ $29.00 (was $37.90), Custom Brass New Haven 8200 Series Lightweight Steel Coach @ $37.30 (was $40.50), Custom Brass New Haven Lightweight Steel Grill Car-Coach @ $37.30 (was $40.50) and Custom Brass 4-6-2 New Haven 'I-4' Class Loco & Tender @ $175.00 (was $242.85) . . . The new Shinohara Point Motor for N scale turnouts is now available from all Shinohara stockists @ $3.75 ea. . . For traction fans working in HO, delivery is promised about the middle of the year for Soho's Southern Pacific MU Electric Cars. These will comprise: #300 Coach, both powered and unpowered; #438 Trailer Coach, #600 Motor Combine and #700 Motor Baggage Car . . . About the time these notes appear in print, Alco Models expect to ship the HO EMD SD40-2 Diesel in both Standard and High Nose versions. All Long Nose version, previously delivered, have now sold out . . . Due from United, about June, is the HO 2-6-6-2 Rayonier Logging Mallet & Tender, designed for service on rough track and tight curves. This will be followed by the HO 0-4-4-OT Vulcan Duplex. A treat for loggers, indeed! . . . Delayed are Alco Models HO SP 2-8-2 'MK-6' Loco & Tender. Long awaited by fans of the Southern Pacific, this Locomotive features a sport model cab, Elesco feedwater heater and large 12,000 gallon Vanderbilt Tender. Price will be $374.50 and stocks are now due the middle of the year, or soon after . . . Coming up from Hallmark Models are the HO Santa Fe '3500' Series Pacific, HO DL-109 A Unit Diesel and HO 2-8-0 Colorado Midland Loco & Tender. The Santa Fe 4-6-2 being due about May end . . . There has been keen interest in Sunset's HO PRR 'M-1' series 4-8-2 @ $404.00, with interchangeable front end for passenger or freight working. Coming up now is the companion Locomotive, the 'M-1a' with long distance Tender. This will also feature the interchangeable front end and stocks are due by the time this issue is out . . . Other deliveries near at hand or not far 'down the track' include: Overland Models HO GN '0-3' Loco & Tender and HO UP #900005 Wedge Snow Plow, Gem Models Reading 2-8-0 '110sa' Series Loco & Tender and the modern, 86 ft. New Haven AC/DC MU Cars which will come as a 3-Car HO Set. Painted and lettered . . . Fresh stocks of Wrenn OO Locomotives & Rolling Stock are due to arrive in July . . . To provide Marklin fans with a dependable source of supply, Dockyard have carried the full Marklin HO range in stock continuously over the past 27 years. New items are always added immediately they become available from the factory and looking ahead, our next shipments are due to arrive in July and August . . . For O gaugers working to NMRA Standards, limited stocks of sprung, 70 ton roller bearing Truck are due about July . . . Large shipments from Athearn, Woodland Scenics, Kadee and Central Valley are slated for delivery in the July/August period. Supplies from which will be made available to all our stockists.

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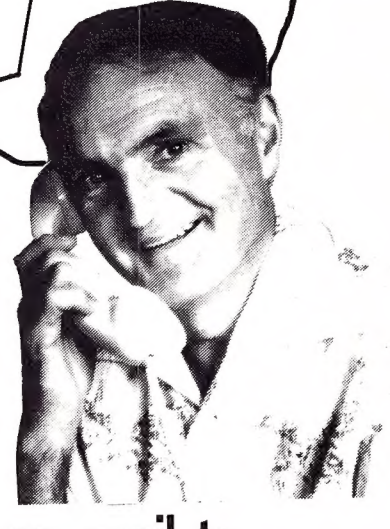

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Thurs, Fri 12 noon-9 pm
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$15.00-$29.99 extra $1.00
$30.00-$49.99 extra $1.50
$50.00 and over — Nil.
Airmail extra $3.00
Registered extra $2.50

While we make every effort to have all articles featured in this ad. in stock, heavy sales, delivery delays etc. may occasionally force us to backorder.
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NOTES ON EXPECTED NEW PRODUCTS.

Due into stock shortly from Kalmbach is the Model Railroader Cyclopedia Vol. 2-Diesel Locomotives. 160 pages, 70 HO scale drawings, 560 photos. Includes sections on diesel trucks, parts and details. $22.50
Orders accepted now.
Also due soon is the GSB Products SW1500 Diesel Cab interior — price should be $13.95
Expected within a few weeks is the new Walthers "O" scale Catalogue. Price should be $6.95 plus $2.00 post and packing. Two new magazines have been added to our shelves:— Extra 2200 South which is published quarterly at $2.90 a copy, and Mainline Modeller published bi-monthly at $2.75 a copy. Full details are given on our magazine information sheet which is available on request.
Now in stock from Evergreen Scale Models are:—
8102 1x2 inch HO strip styrene (8) $1.55
and 4 sizes of Sidewalk (footpath) sheets. (Sheet is scribed into squares to represent concrete). All sheets are .040" thick.
4515 with 3/16 x 3/16" squares $2.95
4516 with ¼ × ¼" squares $2.95
4517 with ⅜ x ⅜" squares $2.95
4518 with ½ x ½" squares $2.95
Expected towards the end of the year is the range of Evergreen Hill Designs, HO detailing parts which includes loggers tools etc, etc.

ON THE AUSTRALIAN SCENE. HO.

From SARMOD
SAR Style Water Tank kit $12.50
SAR Style Culverts (2 sets) $2.60
Goods shed, SAR Style kit still $11.95
From BERGS PLASTIC MODELS.
The Suburban Station, an Australian prototype, injection moulded, building kit $14.95

From NORTH YARD of New Zealand
10.5mm, 10 spoke wheelsets. Made to NMRA standards with blackened metal axles and rims and plastic spokes. Ideal for use with our range of axle boxes and bogie sideframes.
Price per axle .70¢

Our VR PROTOTYPE BOGIES
(Unless stated otherwise bogies do NOT include wheelsets)
VR 4 wheel "PL" series bogie kit (pair) $3.95
VR 4 wheel "QR" series bogie kit (pair) $3.95
VR 4 wheel "W" series bogie kit (pair) $3.95
VR Sideframes only for A, C, D, K and N locomotive tenders. (set of 4) $2.40
VR Axle boxes for short wheelbase 4 wheel wagons (GY) set of 4 $1.20
VR axle boxes (I wagon) set of 4 $1.20
VR axle boxes, "long spring". For "Z" vans, some "T" vans etc. set of 4 $1.20
VR sideframes for "T" class diesels (4) $3.95
VR sideframes for "Y" class diesels (4) $3.95
These sideframes are designed to replace those on Athearns SW1500 or S12 mechanisms. VR Narrow Gauge (HOn2½) plate frame bogie — as used under most "puffing billy" rolling stock.
HOn2½ bogies without wheels (pair) $1.95
HOn2½ bogies with Kadee wheels (pair) $3.40
HOn2½ bogies with Peco wheels (pair) $2.95
NOTE:— The "E" series 6 wheel bogie has been withdrawn to allow a new mould with improved detail to be made.

KADEE HO COUPLERS

Each pack of HO couplers contains enough to convert 2 wagons to the Kadee system.
No. 4 All metal coupler $3.95
No. 5 Universal coupler, for Athearn etc $3.35
No. 6 Long shank coupler $3.95
No. 7 Underset, long coupler $3.95
No. 8 Medium length shank coupler $3.95
No. 9 As for No. 5 but intended for bogie mounting applications $3.95
No. 711 ¾ size for "old time" equipment $3.95
No. 16 is the No. 6 coupler with the No. 7 draft gear box $3.95
(No. 16's are for use on vehicles with buffers)

KADEE HO UNCOUPLERS

No. 307 Electro-magnetic type. each $10.30
No. 308 Under track type each $3.20
No. 321 Between rails type pair $4.45

HO COUPLER ACCESSORIES

205 Coupler Height Gauge $4.75
208 Truck Spacer Washer .015" thick (24) $1.20
209 Truck Spacer Washer .010" thick (24) $1.20
231 Greas-em powder lubricant $2.00
236 Speedi Loco Driver Cleaner $10.10
256 Roundhead Delrin Screws 2-56 (12) $2.00
Kadee wheels (and therefore trucks) have not been available ex-factory for most of 1980 pending production of a new mould.

KADEE N SCALE

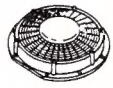
No. 1023 Couplers, assembled 2 pair $4.30
No. 1055 N Standards Gauge $6.50

KADEE N SCALE TRUCKS

1000 Bettendorf with Kadee couplers (pair) $3.90
1001 Bettendorf without couplers (pair) $2.50
1007 Non-magnetic wheels. 12 axles $4.25
1010 Archbar with Kadee couplers (pair) $3.90
1011 Archbar without couplers (pair) $2.50
1030 Roller Bearing with couplers (pair) $3.90
1310 Between rails Uncoupler (2) $3.55

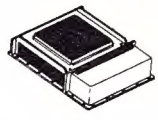
DETAILS WEST HO SUPER DETAIL PARTS

Cooling Fan; 36" Cap-Top Type For Radiator and/or Dynamic Brake Use on F-7's, F-9's, GP-7's, GP-9's, GP-20's, GP-30's, GP-35's, SD-7's, SD-9's, SD-18's, SD-24's, SD-35's, E-8's, E-9's
142 pkg(4)

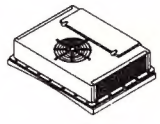


Cooling Fan; 48" Pan-Top Type For Radiator and/or Dynamic Brake Use on Late GP-9's, GP-18's, GP-20's, GP-30's, GP-35's, Late SD-9's, SD-18's, SD-24's
144 pkg(3)

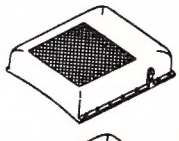
Cooling Fan; 48" Flared-Top Type For Radiator use on EMD GP-20's
145 pkg(2)



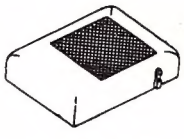
Air Conditioner; Vapor Type Mounted atop Cab of 2nd Generation Hood-Units.
158 each



Air Conditioner; Prime Type Roof Mount with Adaptor for GE Hood-Units.
159 each



Winterization Hatch; EMD F-Unit Type
163 each



Winterization Hatch; Type used on EMD GP-7, GP-9, GP-20, SD-7, SD-9
164 each

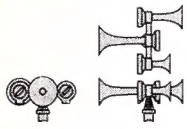
106 Rotary Beacon — Roof mount (2) $1.40
110 Snow Plow with Footboards: 1st and units of SP, WP, UP (1) $1.75
118 Steam Generator set. 1st Generation Hood units 3 pieces (1) $2.10
123 Spark arrestors. "Super" lifting type. Non-turbo-charged units (2) $2.10
140 Snow plow for 2nd Generation hood units for SP, WP, UP (1) $1.75
142 Cooling fan 36" Cap-top type. For Radiator and/or dynamic brake. Used on most F.GP. SD's, E8, E9 (4) $1.75
144 Cooling fan 48" Pan-top type. For radiator and/or dynamic brake. Used on late GP and SD's (3) $1.75
145 Cooling Fan 48" Flared-top type. For Radiator use on GP-20's (2) $1.75
155 Snow Plow. Common type fitted to hood units of numerous roads (1) $2.10
158 Air Conditioner. Vapor type. Mounted atop Cab of 2nd Generation hood units (1) $1.40
159 Air Conditioner. Prime type. Roof Mount GE Hood units (1) $1.75
163 Winterization Hatch. EMD F's (1) $1.05
164 Winterization Hatch. EMD GP-7, GP-9, GP-20, SD-7, SD-9 (1) $1.05
167 Fuel Filler. EMD Switcher Type (4) $1.40
Except for the styrene cooling fans and hatches DETAILS WEST parts are white metal.

UTAH PACIFIC HO

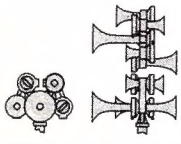
Lost Wax Brass castings.
60 5-chime Diesel horn — GE U-boats (1) $1.40
61 Speed recording drive — GE type (2) $1.10
63 Caboose marker with jewels (2) $2.80
64 Caboose marker lights with 1.5 volt micro bulbs plus green, red and amber marker lenses (2) $9.75
65 Axle wheel slip detector (5) $2.10
69 Exhaust stack GE type (1) $1.40
71 Pyle single Gyralite w/bracket (1) $1.40
72 Roof vents — cabooses, pass. cars $1.75
73 Caboose stack 27" high (1) $1.35
83 Snow shield, UP and Amtrack diesels (2) $4.20
86 Cast grab irons with NBW detail (12) $2.75

DETAIL ASSOCIATES

AIR HORNS & BELLS



Air Horn, 3 Chime
Nathan M3
1601 pkg(2)



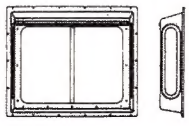
Air Horn, 5 Chime
Nathan M5
1602 pkg(2)

Lift Ring, EMD
3.5" Eye Bolt
1101 pkg(36)

Lift Ring, EMD
F & E Unit Nose
1102 pkg(6)

Lift Ring, Flat
Mounts on Pilot Beam
1103 pkg(8)

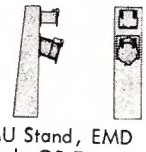
Lift Ring Tabs, Roof and Side
Hood Mount
1104 pkg(16)



All Weather Window,
Double Type for GP, SD
2301

MU STANDS

MU Stand, EMD
Early GP Types
1501 pkg(2)

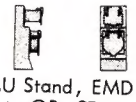


MU Stand, EMD
Early GP Type, High
1502 pkg(2)

MU Stand, EMD
Intermediate GP, SD
Single
1503 pkg(2)

MU Stand, EMD
Intermediate GP, SD
Double
1504 pkg(2)

MU Stand, EMD
Late GP, SD Type
Single
1505 pkg(2)



MU Stand, EMD
Late GP, SD Type
Double
1506 pkg(2)

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1002 Oscillating Dual Headlight, Pyle	$1.30
1003 Dual Headlight, Pyle — Late	$1.30
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1007 Mars Dual Recessed Headlight	$1.30
1008 Oscillating Dual Headlight, Mars	$1.30
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1010 Headlight, Pyle — Large WP/CN/CP	$1.85
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1104 Lift Ring Tabs — Roof and Side Hood	$1.30
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1302 Sunshade — F&E Type	$1.50
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1403 Drop Step, GE — U Series Type	$1.50
1404 Drop Step, EMD — Dash 2 Series Type	$1.50
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1501 MU Stand, EMD — Early GP Type	$1.30
1502 MU Stand, EMD — Early GP Type, high	$1.30
1503 EMD — Intermediate GP/SD Single	$1.30
1504 EMD — Intermediate GP/SD double	$1.30
1505 EMD — Late GP/SD Type, single	$1.30
1506 EMD — Late GP/SD Type, double	$1.30
1507 MU Receptacles	$1.30
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2202 Grab Irons — bulk package (48) wire	$3.85
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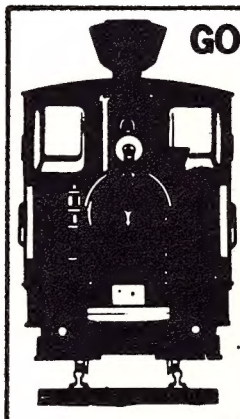

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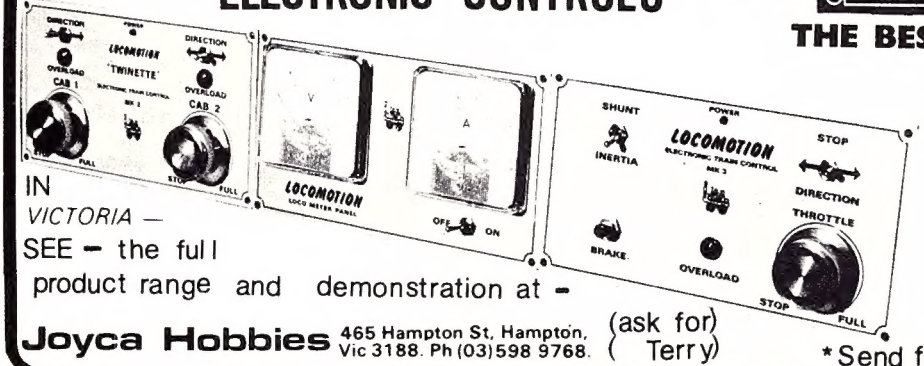

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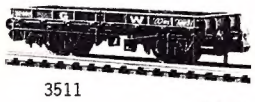
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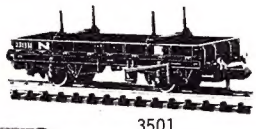
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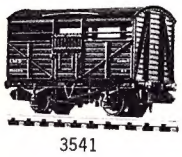
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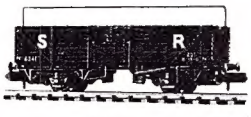

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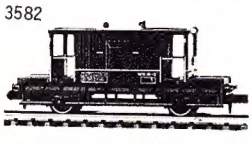

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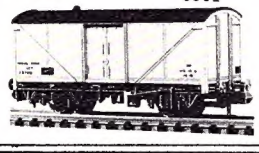

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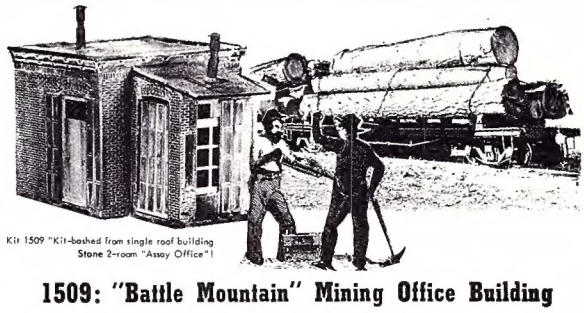
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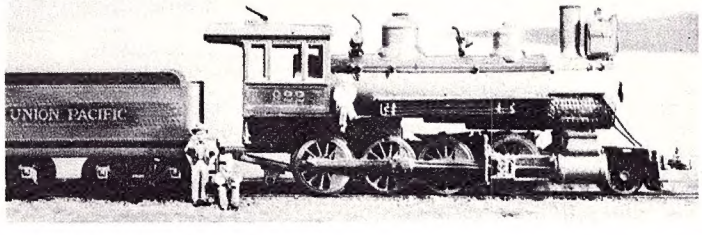

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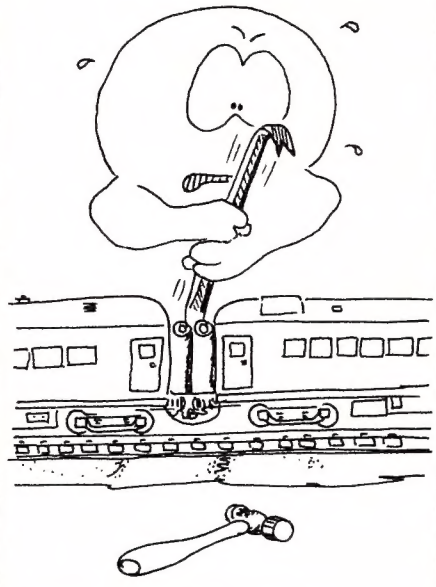

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N.S.W. VEHICLE COUNTDOWN — 16

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Paul Rogers

A.M.R.M.

**JULY/AUGUST, 1980
Issue 103, Vol 9, No 10
AT ISSN 0045-009X**

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SYDNEY — NSW. October 4, 5, 6, at the Wesco/Ford Pavilion, RAS Showgrounds, Driver Avenue, Moore Park. Open (Sat) 10am-8.30pm, (Sun) 10am-6pm, (Mon) 10am-7pm. Admission $2/$1. Organised by the NSW Branch of the Australian Model Railway Association.

BAULKHAM HILLS — NSW. October 11 at Baulkham Hills North Public School, Girralong Avenue, Baulkham Hills. Open 9am to 4.30pm. Admission $1/50¢.

BOWRAL — NSW. October 11, 12 at the Bowral Infants School, Boolwey Street, Bowral. Open 9am-5pm. Organised by the Berrima District Model Railway Club.

CANBERRA — ACT. November 15, 16 at Phillip College, Woden Valley. Organised by Canberra Model Railway Club.

BOX HILL —Victoria. December 6, 7, at Box Hill High School Memorial Hall, Cnr White Horse & Middleborough Roads, Box Hill. Open (Sat) 10am-9pm, (Sun) 10am-5pm. Admission $1/50¢. Organised by the Mont Valley Modelling Group.

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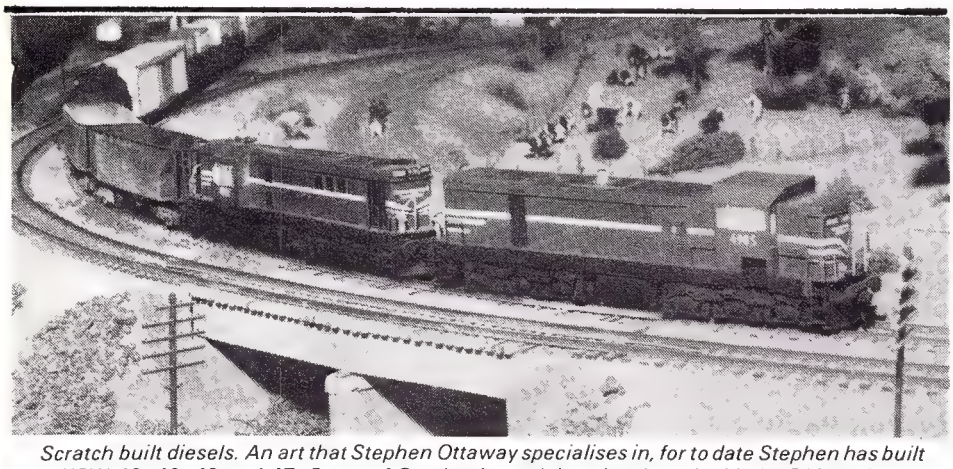
COMMENT

Many freight consignments need to travel over two or more Australian railway systems. In years past, these movements meant transhipment of cargo at "break-of-gauge" stations, except where two States operated a common track gauge between their adjoining territories. The advent of gauge standardisation and the bogie exchange system has led to greater flexibility in the utilisation of selected items of rolling stock. This situation suggests a possible solution to the current dearth of ready-to-run accurate replicas of Australian freight rolling stock.

The diverse designs adopted by Australian rail administrations for goods vehicles means that there are very few examples of common patterns between States. Thus, overseas remedies such as the painting of standard covered, flat and open wagons in various liveries to represent different railroads are not directly applicable to Australian conditions. But we do have vehicles which operate over a sizeable proportion of the Railways of Australia network, thus permitting a reasonable market for their reproduction in miniature form.

We can ignore parochial desires in such a quest, and pick the vehicles most likely to attract the attention of the general public. If an existing commercial manufacturer could be sold the idea, a boxed train set of locomotive, brake van, open wagon, covered van and flat car should be possible. Active promotion of these Australian style models would increase interest in local prototype amongst the general public, and thus lead to additional sales. Such an occurrence can only benefit the Australian railway modelling fraternity.

Paul Rogers



Scratch built diesels. An art that Stephen Ottaway specialises in, for to date Stephen has built a NSW 43, 48, 49 and 47. Some of Stephen's work is to be shared with AMRM readers in future issues. Above 4905 and 4837 double head a pick-up goods on the Menangle exhibition layout. Graham Ball photographer.

A.M.R.M.

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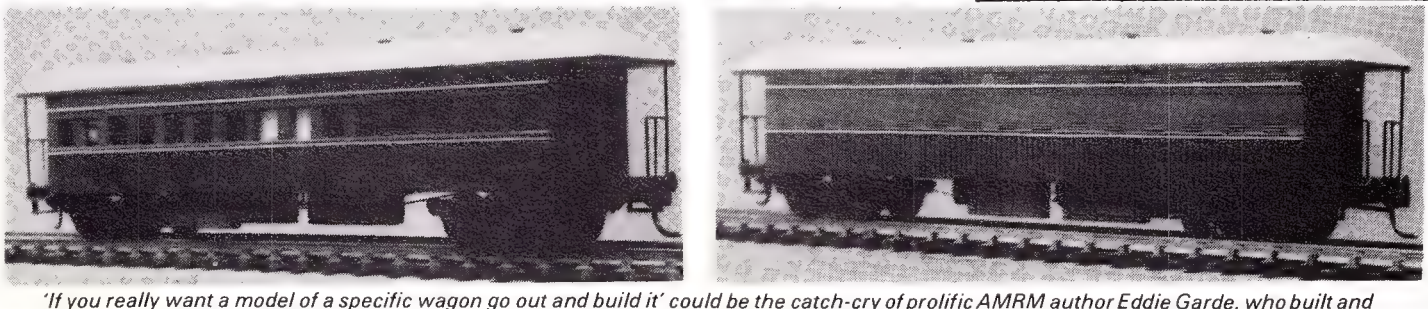
ON THE COVER: *NT65 Gordon Freeth at Oodnadatta, South Australia on the northbound GHAN in July 1965. Photograph by D. G. Taylor.*

'Transistor Throttle'



'If you really want a model of a specific wagon go out and build it' could be the catch-cry of prolific AMRM author Eddie Garde, who built and photographed the above RG greyhound car. The passenger side is the modification of two Rivarossi carriages and the louvered side was scratchbuilt. The RG car was used to transport both greyhounds and their handlers to racetracks, an interesting operational aspect for model railways.

VOLLMER

HO/OO

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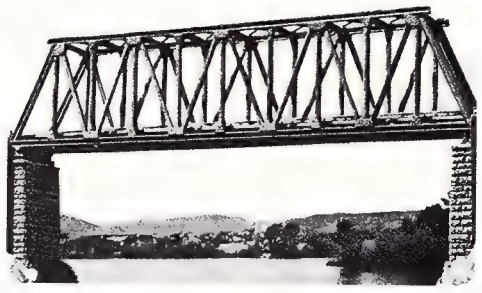


7801

N Gauge

7302	Round Top Through Truss Bridge, 165mm long	$6.25
7800	Through Truss Girder Bridge 150mm long	$7.95
7801	Box Truss Bridge, 225mm long	$9.50
7810	Bridge Centre Pier	$2.25
7820	Stone Bridge Abutments (Pair)	$4.75
7825	Straight Bridge Deck - 2 x 8 3/4"- 2 supports	$4.75
7829	Curved Bridge Deck, 145mm radius, 2 x 4" with two supports	$8.75
7830	Curved Bridge Deck, 145mm radius, 2 x 8" includes two supports	$10.50
7831	Curved Bridge Deck with 10 plug together piers, 145mm radius, 1 x 8"	$6.25
7840	Pier & Ramp Set, with straights & curves - 0 to 50mm high	$19.50
7841	Piers - 10 x 8mm & 5 x 4mm high	$3.75

Who said.... VOLLMER? *We did!*

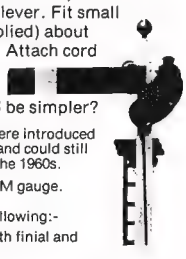
EXCELLENCE IN PLASTIC KITS

2505 - HO/OO
7800 - N

TO ALL RETAILERS: The prices set out or referred to herein are recommended prices only and there is no obligation to comply with the recommendation.

Working Signals

These new signals come painted and partly assembled with special spring-return mechanism. Just drill two ½in.dia. holes through the baseboard, one for the post and one for the lever. Fit small screw eyes (not supplied) about every twelve inches. Attach cord to signal and lever via screw eyes, and that's it - what could be simpler?



The prototype signals were introduced by the GWR from 1892 and could still be found in use during the 1960s.

4mm scale - OO/HO/EM gauge.

The pack contains the following:-

- Pre-coloured post with finial and lamp(s) painted.
- Correctly printed arm with separately fitted spectacle lenses.
- Assembled, spring-loaded mechanism and operating wire.
- Moulding, containing ladder, platforms, balance weights, ladder stays and sufficient parts to construct one ground signal.
- Assembled operating lever.
- Length of cord with adjuster.
- Installation instruction leaflet.

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461F	Fixed Distant Signal	$6.25
462	Home & Distant Signal	$12.50

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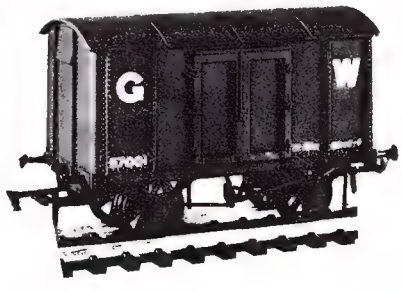
R/T4100	Fine Scale Sleepering Units, 18.83mm Gauge, 5 metres	$9.75
4365	Code 75 Rail, Nickel Silver, ½ metre lengths, 10 metres	$4.95



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HO/OO

FINE SCALE MODEL RAILWAY KITS

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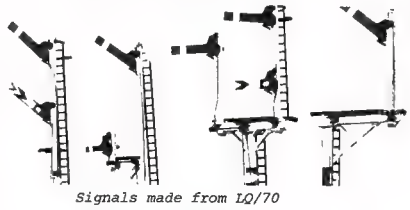
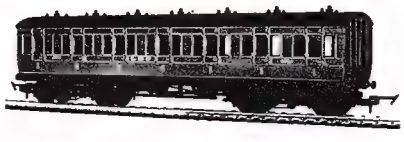
PT/50	Pratt Truss Signal Gantry, use with UQ/70, adapts to others	$2.50



Signals made from LQ/70



LOCOMOTIVE & TENDER KIT

5778 L.M.S. (ex-Midland) Johnson 2-4-0 Loco with tender - complete with motor and crew $45.00

COACH KITS - L.M.S. (ex-Midland) LOW ROOF 48ft SUBURBAN $8.95

5710 All Third, 8 compartments
5711 All First, 7 compartments
5713 Brake Third, 6 compartments
5714 Brake Third, 4 compartments

COACH KITS - L.M.S. (ex-Midland) 48ft CLERESTORY $8.95

5720 All Third, 6 compartment, lavatory, luggage
5722 Composite, 3 First, 3 Third, lavatory
5723 Brake Third, 4 compartment, lavatory, guard

COACH KITS - L.M.S. (ex-L.N.W.R.) 50ft CORRIDOR, ARC ROOF $15.95

Complete with brass buffers, dummy corridor connections, etc. etc.

5730 All Third
5732 Composite
5733 Brake Composite
5734 Brake Third

WAGON KITS

5063	G.W.R. "Iron Mink" type 'A'	$4.25
5065	G.W.R. 12 ton Box Van	$4.95
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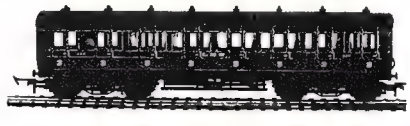

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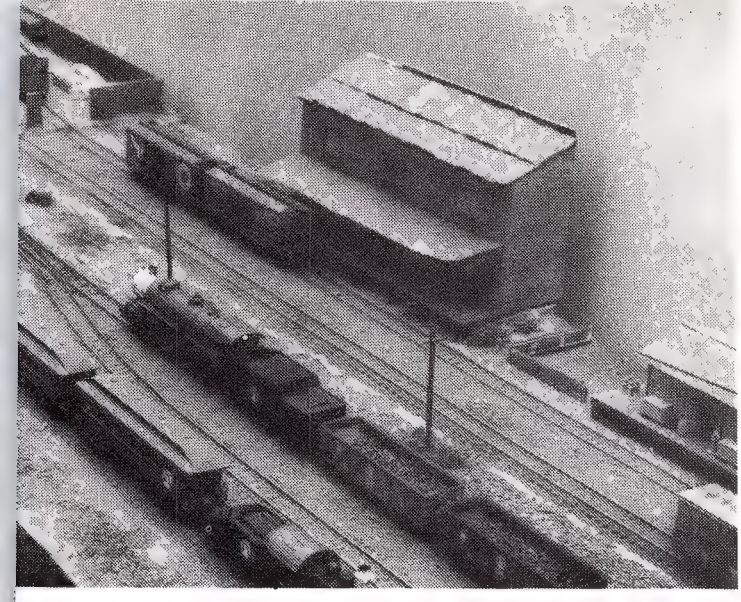
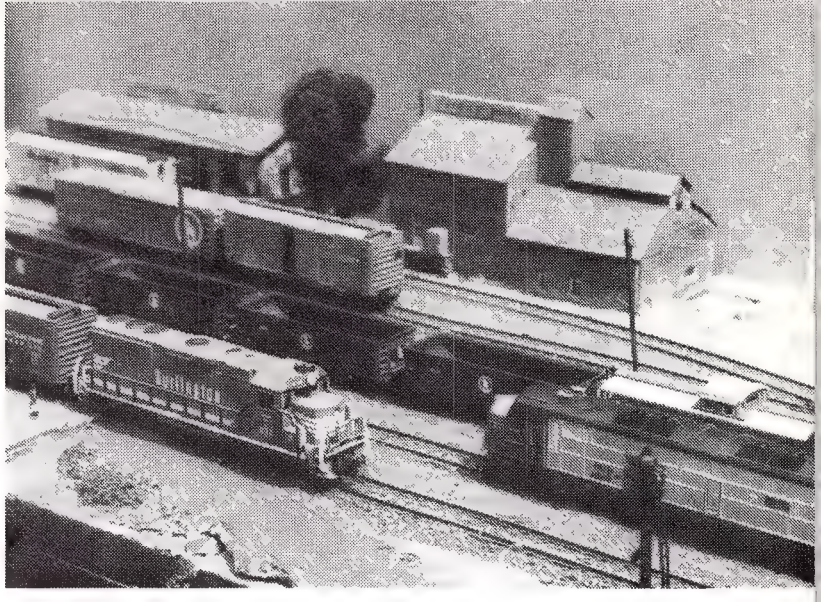




These two views are of the Long Flats module, built and photographed by Gerry Hopkins.

MODULAR 'N'

Gerry Hopkins illustrates the modular form of layout as used by the Sydney 'N' Gauge Model Railway Club.

Modular systems for model railways have been in existence for many years, but until the arrival and establishment of 'N' Gauge, they have not taken off in a very big way.

Back in 1971 a group of Sydney Modellers got together to form the S.N.G.M.R.C. and decided that a modular system was the most convenient system to adopt. Being a very mixed bag of people, many wiring systems were studied and considered. They settled on the use of 20 pin 'nife' plug and sockets, at that time using 8 of the 20 pins. Once a system of control and operation had been decided upon the next step was the size and/or shape of the modules and the method of connecting them together. Atlas/Lima make a piece of track which is 124mm long, and it was decided to use this as the 'joiner' of tracks, which meant that the through tracks on the module had to terminate 63mm from the edge of the board (both 'N trak' and 'Interrail' adopted the same system). The extra 2mm allows for expansion of track on the modules.

Track centres of 30mm were adopted for adjacent main lines, and to achieve a standard height the baseboards were made of ½" board and fitted with 24" screw-in legs, being readily available and easy to fit. In 1979 a number of modules have been raised to 30" measured to the bottom of the base board. This was done primarily for the 1979 AMRA Exhibition but has proved so popular that other modules are being raised to this new height. The size and shape of the module is up to the owner. Unlike 'N Trak' which was originally intended for exhibition running and where modules are of set lengths to enable an "island" continuous run situation, the SNGMRC system was intended purely for the operation by, and enjoyment of, the members. With this in mind it was decided to use joining sections of various lengths, and 90 degree corner pieces to join modules together. An end to end system has always been favoured at the Club, also we never have the same set-up twice.

The smallest and simplest module is Fargon, a short passing loop with a siding. One of the larger modules is Short Flats which features hand-built points and route selection of point work. Question Junction is an unusual module in that it has three working sides, with automatic reversal at the bottom of the 'Y'. In most cases the only limit of size and shape is the size of the owner's car.

Due to the extra thought put into the original wiring system the modules are completely reversible; just undo the plug at either end and turn the module around and refit the plug to the new ends. The plugs carry all the required circuits:—

(1) A.C. Power (18v) This is the main power line for most of the controllers and any accessories.

(2) D.C. Power (12v) Some of the Controllers use DC.

(3) C.D. Power *(Capacitor Discharge)* capable of powering 7 to 8 points in one 'HIT'. Ideal for route selection.

(4) Communication. Between modules by means of a flashing lamp or buzzer. *(The Club has it's own Bell Code).*

(5) Control In & Control Out. Refer to Fig.2. If Module B switches a Section (or block) to Control in (East), and provided Module C switches to Control Out (West) the C operator can drive a train from B to C. If B throws one more switch and A switches to Control In (East), then C can drive from A through B to C. Many other combinations are possible.

(6) 'XTRA' Controls. 1 & 2. Primarily intended for Exhibition running. They are a Plug-in walk-round type controller that can be plugged into any module.

A set of Data Sheets are issued to Members on joining the Club. Should they experience any difficulty in understanding same, there are many members with an electronic 'bent' who are very willing to assist. A set of "simple explanation" Data Sheets are being written at this time and should be available early in 1980.

Although the system appears a little complex at first glance, once someone sits in front of a control panel and has a brief period of instruction then all of the above becomes self evident. Some of the 10—11 year old student members (male & female) are quite capable of operating the modules.

Due to the efforts of members over the years the standard of trackwork and preparation of rolling stock has greatly improved. If a piece of rolling stock comes off the track it is immediately examined to find the cause, it is not just put back on and forgotten. Should two or more wagons come off at the same piece of track, then the track is

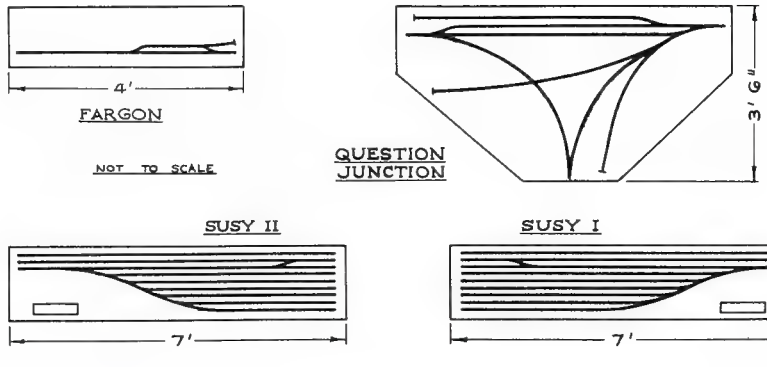


Fig. 1

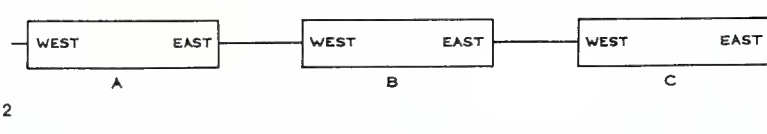
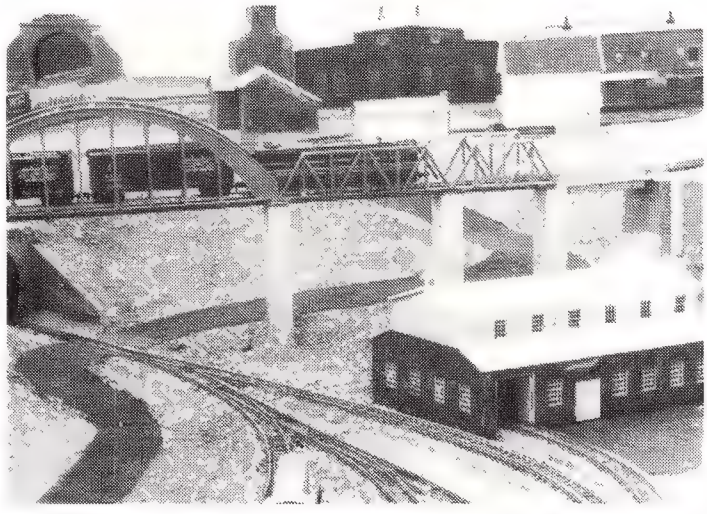


Fig. 2



Part of Filmac Terminal Railway, built by Ian Henderson.

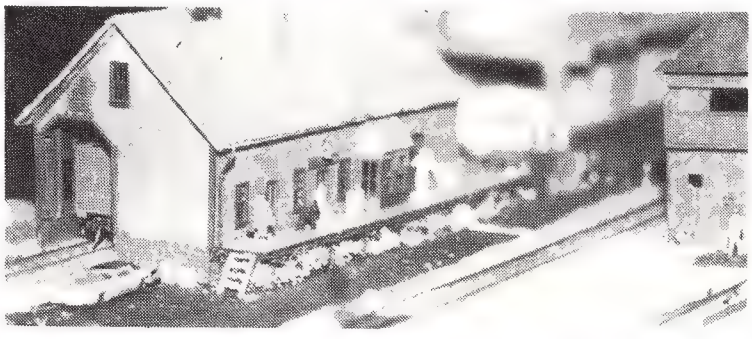
Williams Burg at the 1978 AMRA exhibition. Built by Bill Whale.

examined, the fault found and put right. The brass track and wheel gauges available at a Sydney Hobby shop have gone a long way to help. At the 1979 AMRA Exhibition in Sydney, we were able to run a train of 185 cars, the only piece of track which let us down was one with a built-in level crossing/re-railer.

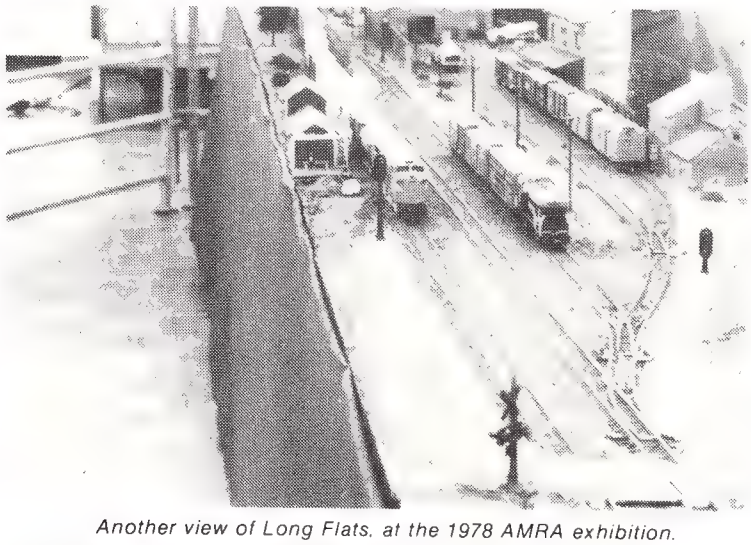
The Club owns two special modules, *Susy 1 & Susy 2* (Sydney Utility Storage Yard) These can be operated separately or back to back to form a large Fiddle Yard. On Club Running days these are used at either end of the system. With the use of two 'Y' type modules in the system we can have a point to point main line with two branch lines. Members who arrive late, or have to leave early are put on the branch line so that they do not affect the main system. The use of two different heights of module has added an extra dimension, a 4% grade that requires helper service, a pair of Bachman F9's fitted with modified Kadee Couplers.

A form of Way Bill operation is used on most running days. Some days are allocated for Kadee type couplings, some days are for Rapido couplings and some days for Un-American running which seems to be about 90% passenger stock.

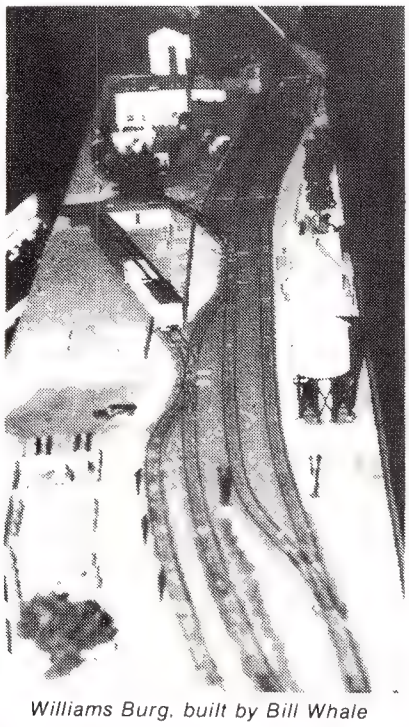
Any further information may be obtained from the S.N.G.M.R.C. P.O. Box 4 St. Leonards. 2065 N.S.W.



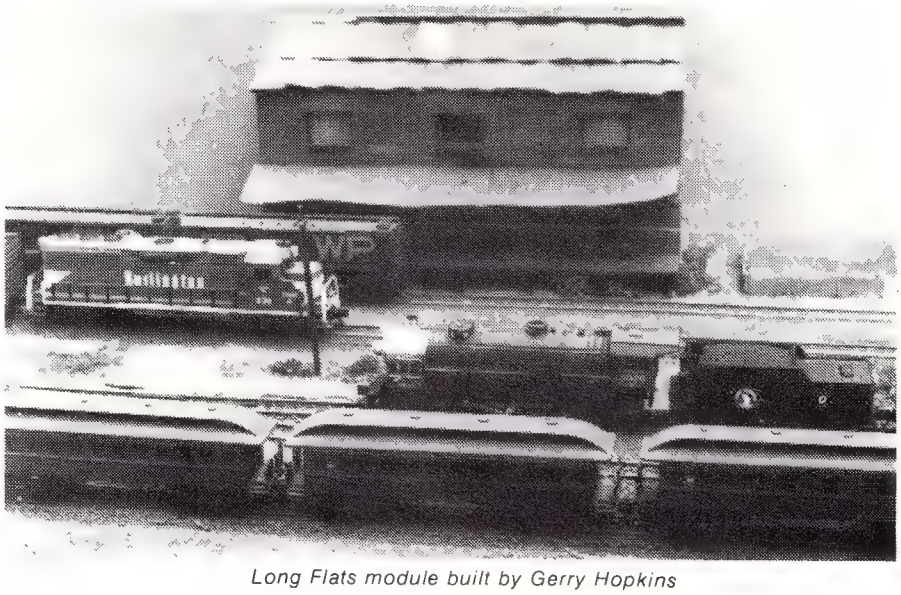
Goods shed at Short Flats, built by Gerry Hopkins.



Another view of Long Flats, at the 1978 AMRA exhibition.



Williams Burg, built by Bill Whale



Long Flats module built by Gerry Hopkins

$1.5 million worth of bridge over a river which will be dry most of the time. The Finke River bridge is one of the major bridgeworks south of Alice Springs on the Tarcoola to Alice rail link now under construction. More than 800 kilometres is being put down in some of the harshest conditions in Australia. Its Australia's biggest single railway project for 60 years.

KULGERA

by Graham Howard

IF YOU EVER THOUGHT YOUR TRACK WAS HARD TO LAY....

You have to be tough to live in Kulgera railway camp. You have to work hard or you don't last long on the railway.

In winter, the weather is warm, and sometimes even hot. And in summer it's always hot, and sometimes very, very hot indeed.

Kulgera is the border point between South Australia and the Northern Territory.

It's a lonely, red, dusty place, 45 minutes flying time in a Connair four engined aircraft nearly 300 kilometres south of Alice Springs.

It's not a sophisticated life style at Kulgera. But it is a place to save a lot of money, if you can stand the heat and work hard.

Kulgera railway construction camp has a population around the 60 mark.

Everybody moved up to Kulgera from the last camp in South Australia because the railhead got too far ahead of the camp.

One of the most obvious things about the people of Kulgera is that they are immensely proud of the railway line they are building to the Alice.

They love to talk about it, and to tell you how they overcame some immense construction and logistic problems.

The present lightly constructed Ghan railway was started in 1878 and completed in 1929.

It had to follow the water bores and holes to keep the men alive and to feed the steam powered engines.

In 1975 construction began on the new Ghan, the Tarcoola to Alice Springs link. It's further to the west of the original Ghan, if anything could be further west than the desert town of Oodnadatta.

As the new line leaves Tarcoola, the Great Victoria Desert is to the west and then after the border is crossed the line is skirting the western edge of the Simpson desert.

The desert seems flat and remorseless, but the new line manages to follow slightly higher ground than the Ghan line. Diesels don't need a water stop every few hundred kilometres.

The new line is not flood free — hence the $1.5 million Finke River bridge as the line runs through the country of Albert Namatjira. But the engineers have worked out that it should be able to carry traffic through pretty much all weather.

There will be 52 bridges along its 831 kilometre length.

The border between South Australia and the Territory, where the railway line cuts across, is marked by two pairs of boots hanging from a steel stake. The surveyors of the line reckoned that by the time they had walked to the border, they were due for a new pair of boots. So their old ones were left as the border marker.

When the first budget estimate was made for the railway in the early 1970s the cost was put at $145 million.

That, despite inflation, still is the budget. The people of Kulgera are proud of the fact that they have been so efficient they have beaten inflation.

They are probably more proud that construction is 12 months ahead of scheduled.

They want to finish the job as soon as possible even if it does mean they could be out of work. They also reason that it might induce the Federal Government to keep on going to Darwin.

The estimates of how much that would cost vary from between $350 million to as much as $500 million.

America's proud 'steel driving man', John Henry died trying to beat new steam driven mechanical equipment.

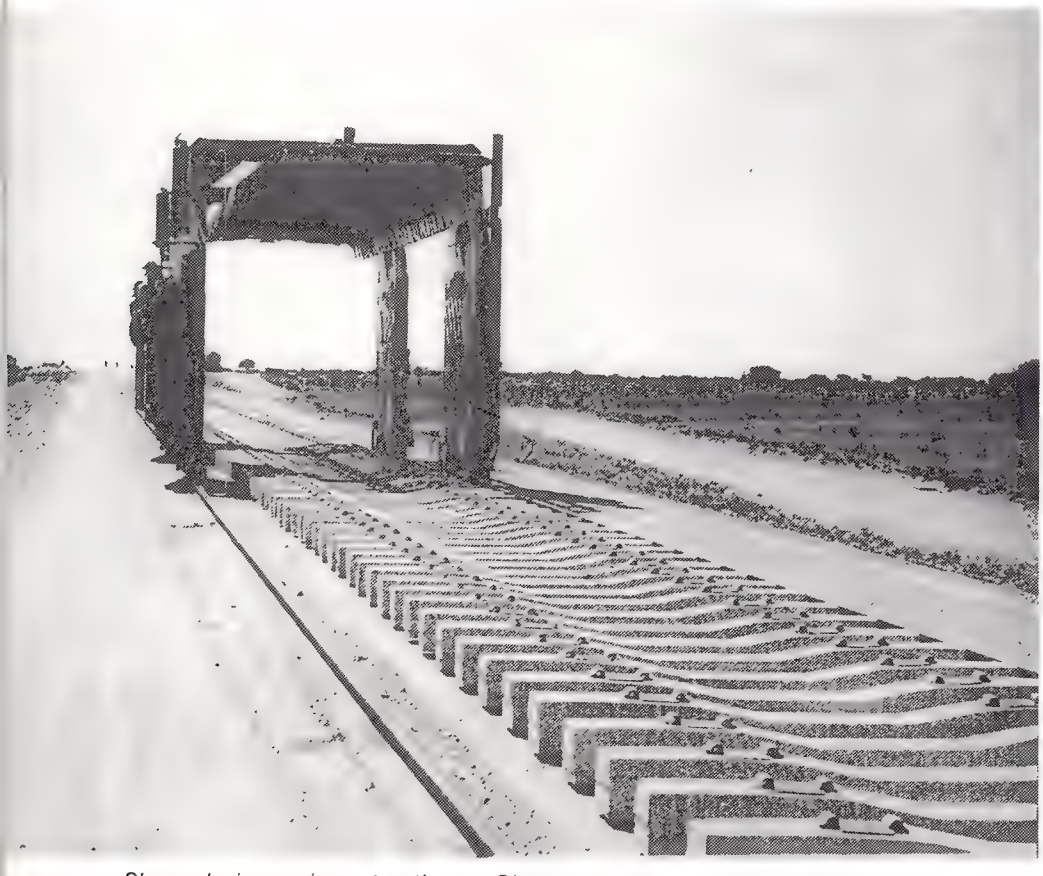
At Kulgera everyone is proud that they have the most efficient track laying method in the world.

Railway experts from many countries have been, or are coming to Australia to see how its possible to lay a kilometre of track each day.

The "star performer" as the Australian National Railways puts it, is a giant sleeper laying machine which picks up 40 concrete sleepers at a time and puts them in place in just a few minutes.

There are 1.25 million sleepers to be used. Two factories are needed to turn them out at the rate of 1,000 a day. Each sleeper costs about $18 and the total bill for sleepers is over $22 million.

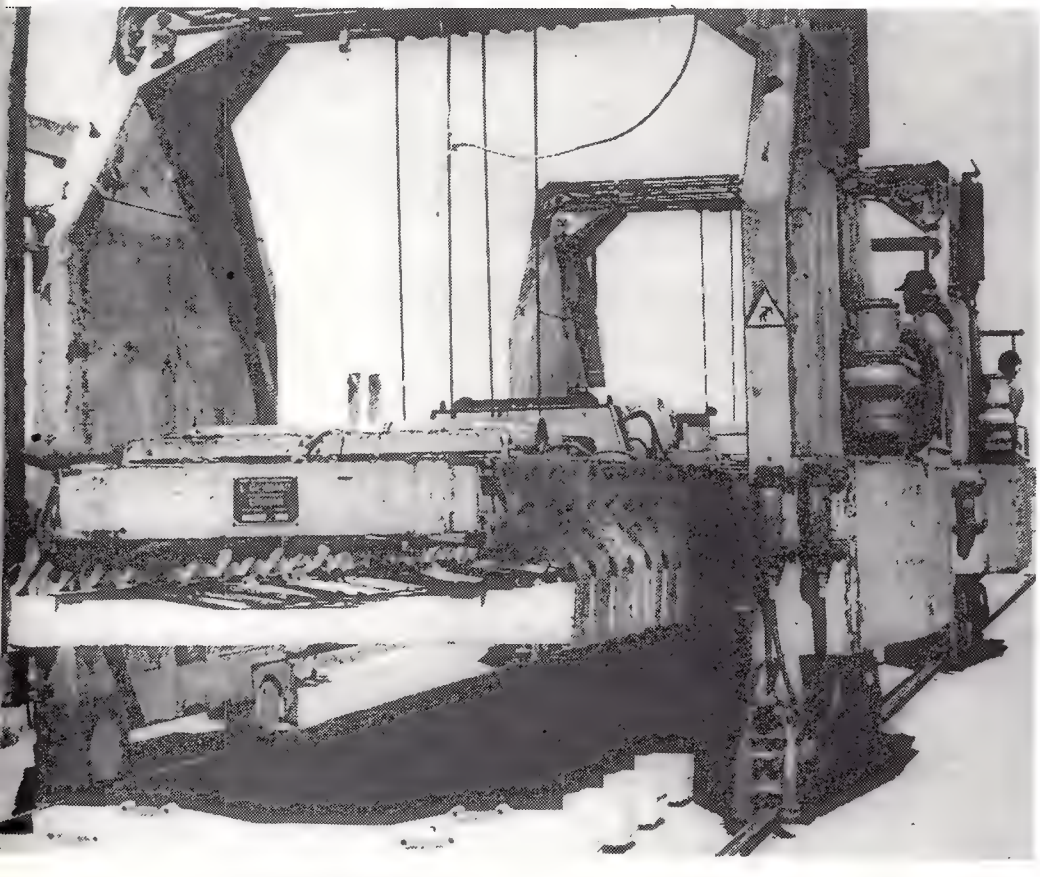
Timber sleepers would cost $10 each, but they would last for only 17 years whereas, the concrete sleepers will be down for 50 years.



Sleeper laying equipment on the new Ghan rail link is amongst the most modern in the world. Engineers from the ANR toured the world to 'borrow' ideas on track laying. Those ideas were then pooled and adapted to Australian conditions. The result is Australia now leads the world in many respects in how to lay track. Railway men from various countries are coming to the desert of Australia to see how it's possible to lay a kilometre of track each day. The conditions for work are hard. It's often 50 degrees in the desert, but work goes on.

Below

The sleeper machine is about to place 40 sleepers in place. When that's done, it will run back down the track for about a kilometre and pick up another load of sleepers which are already spaced out and stacked on flat wagons, which have come from two factories in Port Augusta.



There is other equipment which picks up 140 metre lengths of track and puts it in place. There is a quarry at Kulgera which will produce 600,000 tonnes of ballast.

Kulgera will have cattle loading facilities and siding as well as a turning wye.

The working conditions for those building the line are hard. They are as tough as any in Australia. The men are tough as well. You can't expect to last long on the job if you don't want to work and sweat. Many don't last.

You keep working right through the summer heat. How hot does it get?

"VERY hot, especially when you are doing physical work on the track," according to Geoff Brewster.

Brewster is the site engineer. Only a young man, he's been with the railways for about eight years now.

"Last summer, for about a fortnight it was up to about 50 degrees each day."

To the casual visitor to Kulgera, like myself, it didn't seem possible that anyone could work or even live in such temperatures.

Brewster says some men can work in such heat. The Railway is always on the lookout for these men.

"It was very hot. There were birds falling out of the trees. It was common to walk around and see birds on the ground, under the trees."

"It was exhaustion from the heat. They just fell out of the trees."

The ANR loses a few people each week in winter.

In summer they lose as many as 12 in a bad week from a total work force of less than 100.

All construction supplies and all the things needed for everyday living in Kulgera come in by rail. All water has to be railed in.

Brewster; "There is water up here, but so far its only been used to compact the formation."

It's too salty to drink.

All our water comes from Port Augusta in rail gins, that's a water tanker on rail wheels.

We have to transport it from the railhead to our camp each day."

Brewster agrees that it is a long way to get a drink of water, or a bath, Port Augusta is 1200 kilometres away.

And what do you do if you want something stronger.

"We have a wet canteen. It's soft drink and beer."

"Beer is the limit. No spirits whatsoever."

Despite the heat, it is work nine hours a day and six days a week.

The long working hours are based on the theory that in the never never country there is nothing else to do apart from work. The men accept it willingly enough.

Everybody has a hot job at Kulgera. It's just that some have hotter jobs than others. Perhaps the worst is the job of welding the rail together once it's down on the sleepers. Another job which makes you sweat freely is wielding a sledge hammer to knock the clips into the sleepers and thus tie the rail down tightly.

The men eat and sleep in prefabricated huts, air conditioned of course.

A couple of men have their wives and families with them at Kulgera. They have the huts with the best conveniences.

"All married people live in transportable buildings," Brewster said.

"They are two bedrooms, dining room, kitchen, bathroom, full electricity supplied, hot and cold running water, sewered.

"Actually, physical living conditions up here for the people are no hardship."

The three air conditioning units for each family help also.

There is though no television and radio reception is poor.

The men who want to stick it out can earn

Continued on page 21

The above scene, of the Menangle station scene (photographed by Jack Parker), indicates the versatility of POLY STYRENE as a modelling material, for all the structures in this scene have either been made completely from styrene or styrene sheet has been used as a solid base upon which other material has been added.

MODELLING WITH STYRENE

By Ian Thorpe

Modelling from Styrene sheets and components is becoming more and more accepted in modelling 'circles' as THE building method. Many readers write seeking tips upon working with styrene and many others ask how we have built models from styrene. Styrene is definitely the modelling material of the age, its greatest properties being that it is easy to cut, shape and join. It's smooth surface is similar to metal and so does not require any filling before painting. Injection moulding, using styrene, has provided an almost infinite variety of models, kits and parts detailed to a degree not imagined years ago.

Styrene is available to the modeller from both hobby shops and commercial outlets. Sheets are available in thicknesses ranging from 0.005" to 0.060" thick. It is possible to purchase sheets embossed with brick, stone and rivet patterns as well as scribed and milled patterns (i.e. lapped weatherboards) and strips cut to correct scale sizes from both British and American manufacturers who have commercial outlets in Australia. (*Evergreen* and *Slaters* are two brands on the market at present).

Plastruct is made from a material known as A.B.S. (Acrylontrile-Butadiene-Styrene) which has similar properties to styrene except that it is more rigid and will take paint easier. It is supplied in sheets, angles, tees, tubes, pipe fittings, etc.

Special tools and equipment are not required to work with styrene. With a little care and patience models can be quickly fabricated.

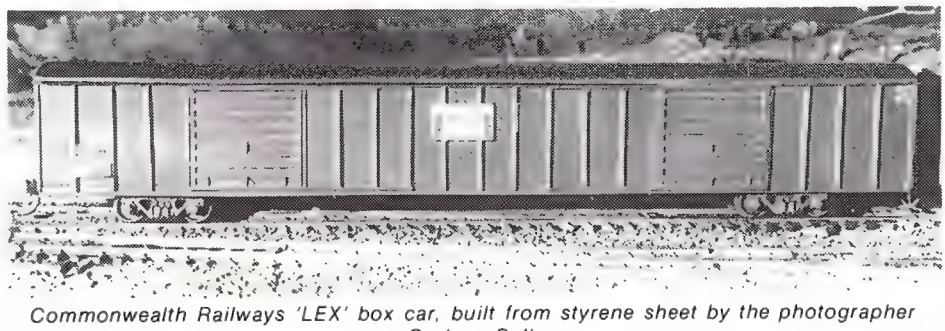
TOOLS

Most tools required for styrene construction are probably already in the modeller's tool box, but are both inexpensive and readily available from hobbyshops or hardware outlets. Tools used for my own styrene modelling are shown in a photo on page 18

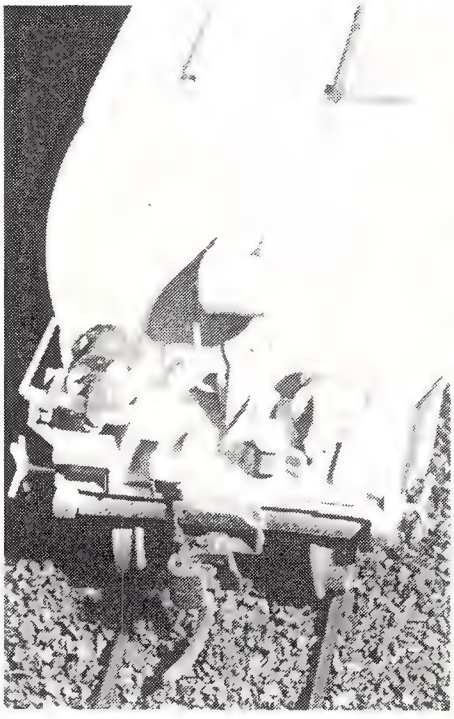
Modellers Knife: A No.11 X-acto blade or similar scalpel blade is ideal, although any fine sharp blade will do. Blades, especially the cutting point, must be kept sharp.

Steel Rule or Straight Edge: Must be a 'good' edge with no indentations in the cutting edge.

Cutting Surface: A good cutting surface is a great advantage. A hard surface like plate



Commonwealth Railways 'LEX' box car, built from styrene sheet by the photographer Graham Ball.



glass is essential when cutting small width strips.

Fine Paint Brush: Used to apply solvent to joints, (more about this in Techniques), and must be kept clean and in good condition.

Small Engineers Square: Obviously a metal square is best and should be kept in good condition, i.e. square.

Pencil: A hard (3H or 4H) pencil, kept sharp.

Files: A selection of jewellers' files and small general purpose files are helpful. It is a good idea to keep a set of files just for use with styrene.

Pin Vyce and Drills: A pin vyce is not only useful for holding small diameter drills but can be used for holding small pieces of styrene while being shaped.

Sandpapers: Use for finishing or simulating wood grains. Wet-and-dry is ideal for surface finishing without scratching.

The above tools are probably all you will need to fabricate basic models from styrene. Additional tools to cut and score grooves, etc. in sheets can be developed from dental probes, disused hacksaw blades, old craft knife blades, etc.

ADHESIVES

By taking advantage of the fact that styrene will react to various solvents, styrene can be easily joined by "welding" (i.e. actually melting together, at the point of contact, the styrene pieces). A strong joint will be formed if the joint is a flush fit and solvent is carefully applied. The most readily available solvent is M.E.K. *(Methyl—Ethyl—Ketone)*, which is supplied in a liquid form. M.E.K. has a distinctive, and to some, unpleasant odour and should be used with care in a well ventilated room. A small amout of M.E.K. carefully applied will go a long way.

Chloroform is also suitable and has been used very successfully by modelling friends without dozing off. Commercial solvents like Plastiweld from Plastruct are also available.

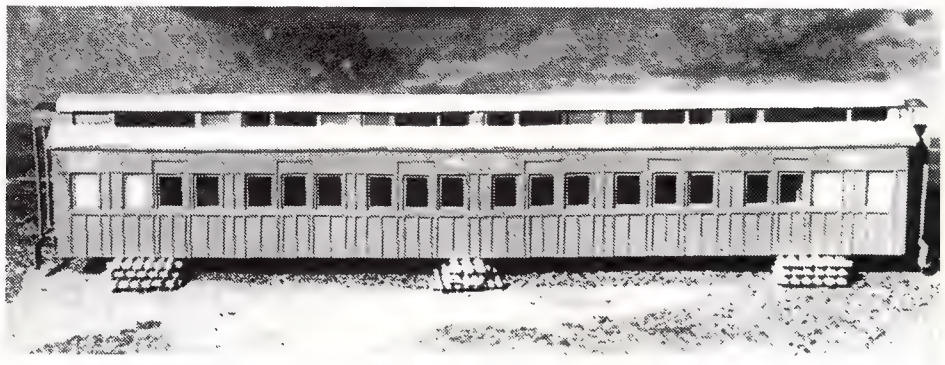
CARE SHOULD BE EXERCISED WHEN USING SOLVENTS AS THEY ARE HIGHLY INFLAMMABLE.

Polystyrene cements used for assembling plastic models are thick and gooey. They are cumbersome to work with and should be used as a last resort.

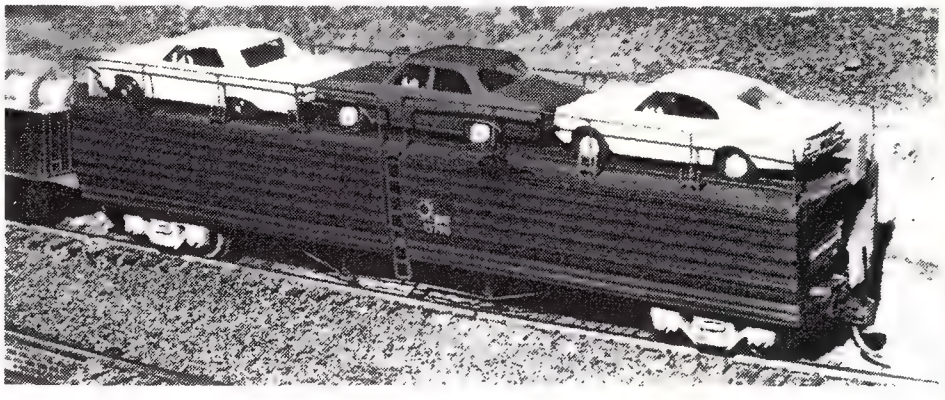
Styrene can be joined to dissimilar materials, i.e. metal, wood, perspex, etc. by using epoxy or contact cements or one of the

Right: *Tools and work board all set up.*

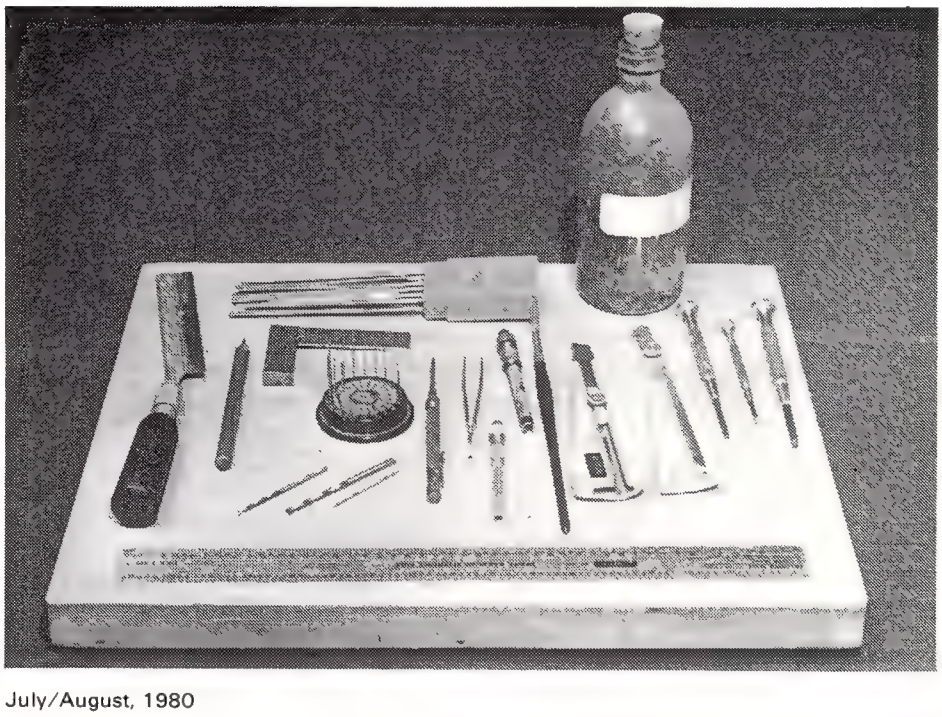
The above two photographs illustrate the epitomy of what can be achieved with poly styrene sheet. The author, Ian Thorpe, built this HO model of a P.T.C. of N.S.W. 'WHX' bogie wheat hopper. Note the curved sides and the fineness of the pneumatic gear housed on the end of the wagon. Graham Ball photograph.

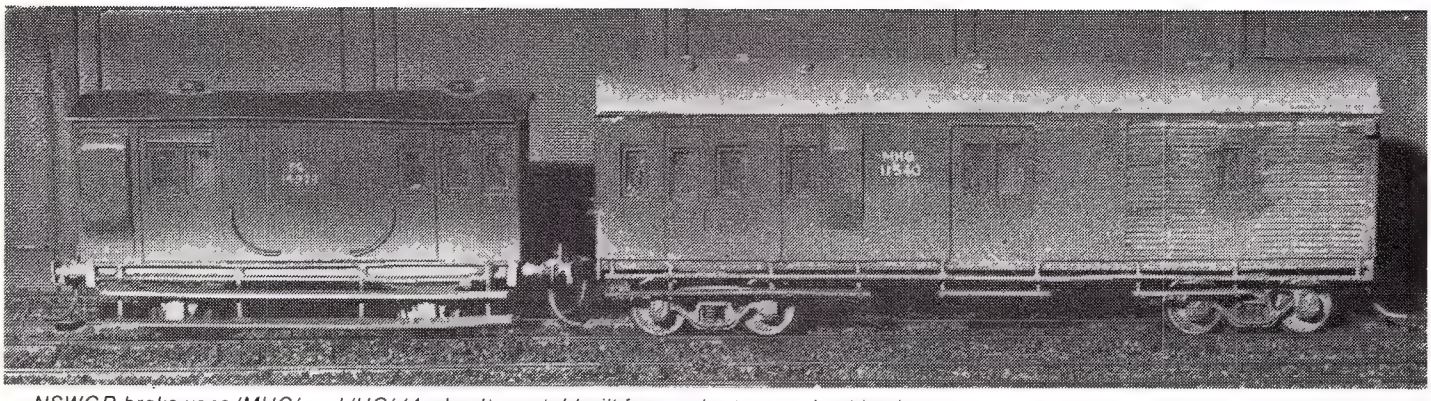


Jeff Parker is credited with building this, as yet, uncompleted HO scale model of a V.R. 'AV' coach. Graham Ball photograph.

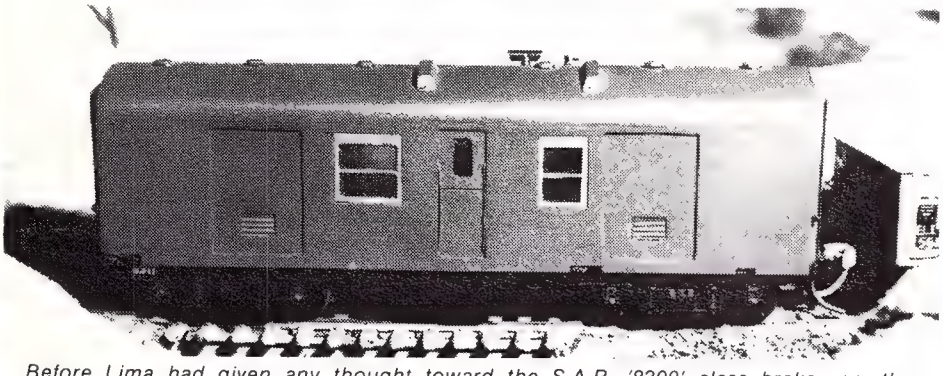


Built by Graham Ball, also the photographer, the above model of an HO scale N.S.W.G.R. 'BKF' was scratch built from styrene.

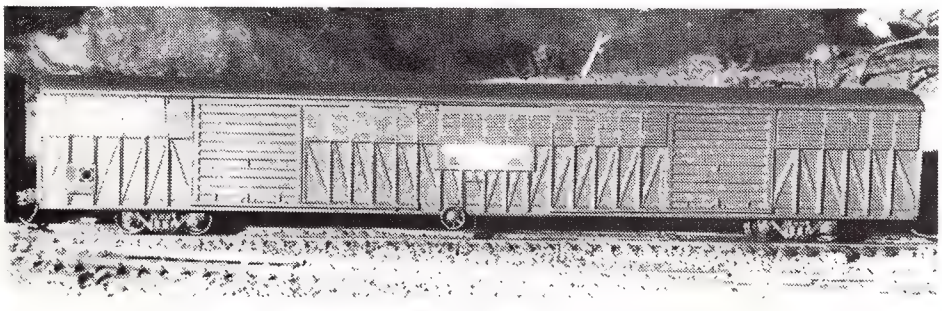




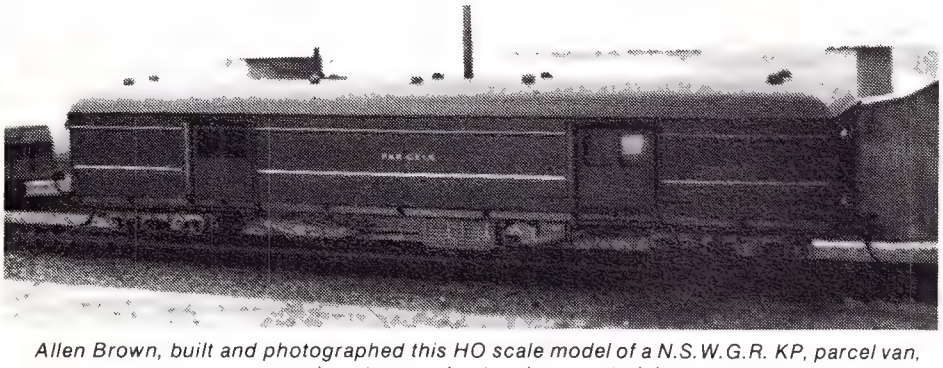
NSWGR brake vans 'MHG' and 'HG' (4 wheel) scratchbuilt from poly styrene sheet by the author.



Before Lima had given any thought toward the S.A.R. '8300' class brake van, the photographer, Graham Ball, built this HO scale model using styrene.

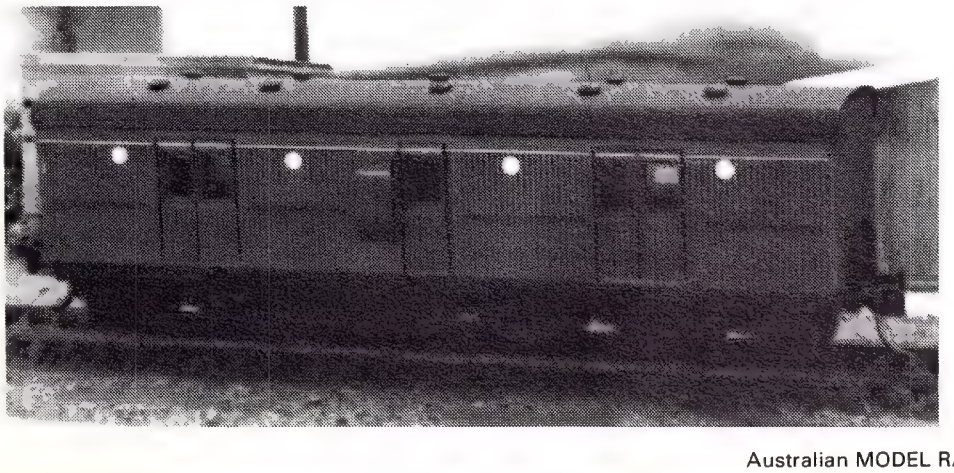


Built from styrene by Graham Ball, Australian National Railways 'VEX' box car.



Allen Brown, built and photographed this HO scale model of a N.S.W.G.R. KP, parcel van, using styrene sheet as base material.

Below: *Allan Brown built this HO scale model of a N.S.W.G.R. 'SHO' passenger brake van using styrene as the base material. Allan Brown Photo.*



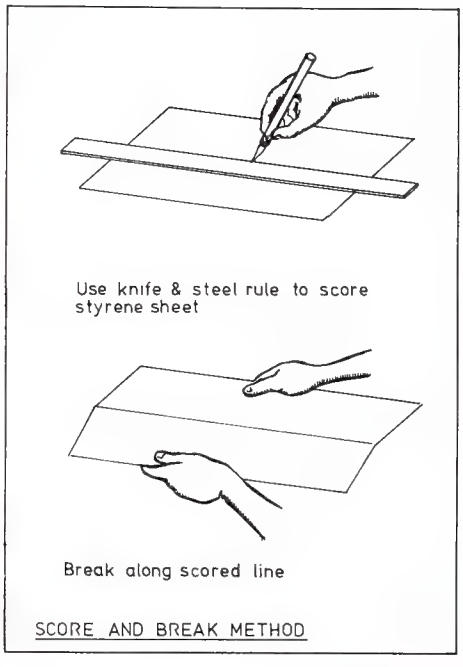
many super-glues available.

TECHNIQUE

Working with styrene requires no great technical know-how or highly-skilled abilities, but only care and patience. Working with styrene can be divided into two basic categories: cutting and joining. Once these basic skills have been mastered, the more advanced skills involving scribing, embossing, bending, etc., will develop. The possibilities using styrene are only limited to the modeller's inititive.

Cutting

Cutting styrene is fast, simple and accurate, and once you start cutting you will wonder why you did not start modelling in styrene sooner. All cutting should be made by using a 'score and break' method. Simply, this method is carried out by scoring or cutting lightly along the desired line or mark and then breaking the material off. All thicknesses, shapes and sizes can be cut this way. Smaller width pieces cut from small thickness material will tend to curl, especially if cut 'all the way through', but by using a hard flat surface (i.e. glass) and scoring and breaking, curling can can be eliminated. A raised edge will sometimes be left along the cutting or cut edge, especially when using thicker sheets, but the raised edge can be quickly removed by judicious use of a blade or file.

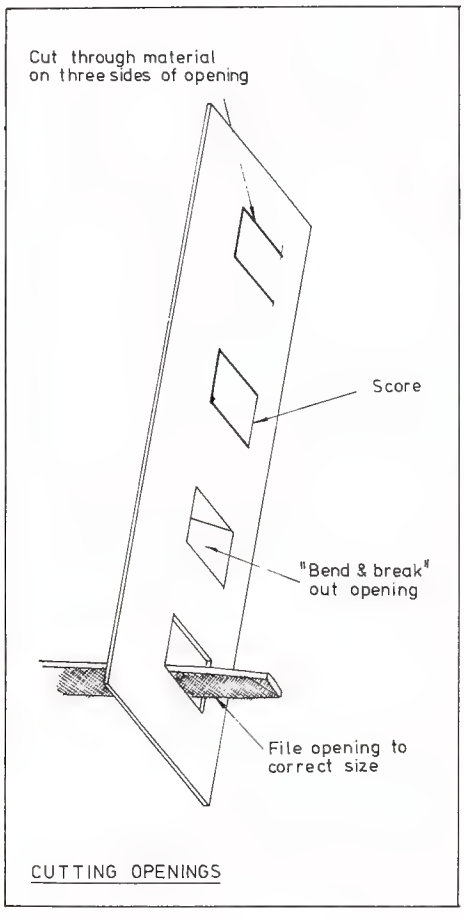


SCORE AND BREAK METHOD

Styrene can be cut very accurately using this method. Pieces should be cut to flush fit, not force fit, as the latter may lead to sections bowing, bending or warping.

Openings, (i.e. doors, windows, etc.,) present an exception to the break and score rule. I make openings by cutting completely through the material on three sides and

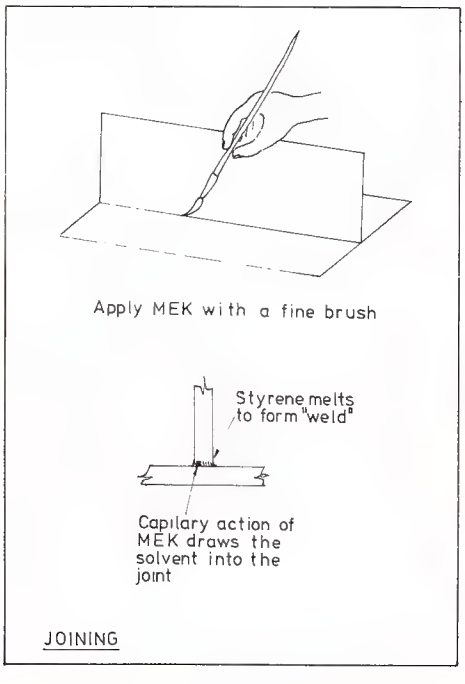
scoring the fourth, then breaking the material out of the centre of the proposed opening. I cut the openings undersized and file to the correct size, although openings in thin material can be cut to the correct size first time if care is taken.



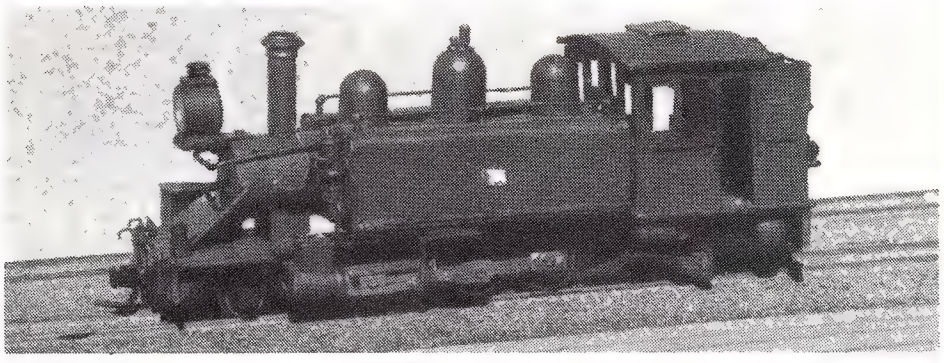
CUTTING OPENINGS

Joining.

Now that the pieces are cut they have to be joined and this can be achieved with surprising speed using M.E.K.. M.E.K. and other solvents have some important properties which make the joining of two pieces of styrene a simple task. Being a liquid solvent M.E.K. applied to two pieces of styrene in a joint situation will be first drawn to all parts of the joint by capillary action and then react with the two surfaces, melting (welding) them together, and then dry very quickly forming a solid welded joint. Simple, isn't it!



JOINING



HOn2½ model of the VR Na class (Puffing Billy), built by Bob Burton using a widened 'N' scale chassis, styrene body work and medicine capsules for the domes.

To elaborate, the method of making a joint is as follows:

i. Hold the pieces of styrene in the position required for the joint. (It is important that the joint be 'good' in that both surfaces make contact).

ii. Apply a small amount of M.E.K. to the joint using a small brush. (The task of getting M.E.K. onto the brush is important, for it is wise not to have too much M.E.K. on the brush. Simply dip the brush into the liquid and, as removing the brush from the bottle, drain away any excess liquid by touching the brush bristles on the inside of the bottle neck. Then apply the brush to the joint. It is best to tack a lengthy joint and then add larger applications, instead of attacking the joint in one single attempt).

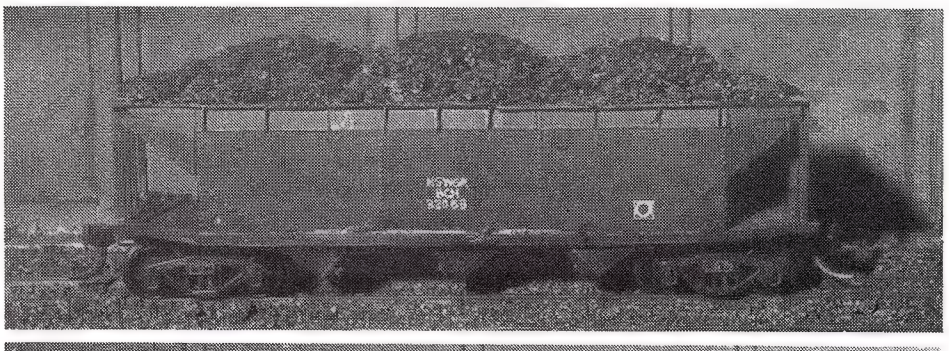
iii. Continue to hold the joint for a few seconds and, 'presto', the joint is made. (If the next step in the modelling procedure requires that the joint be put under stress due to filing or bending, put the section with the newly made joint aside for five minutes so that the joint may cure).

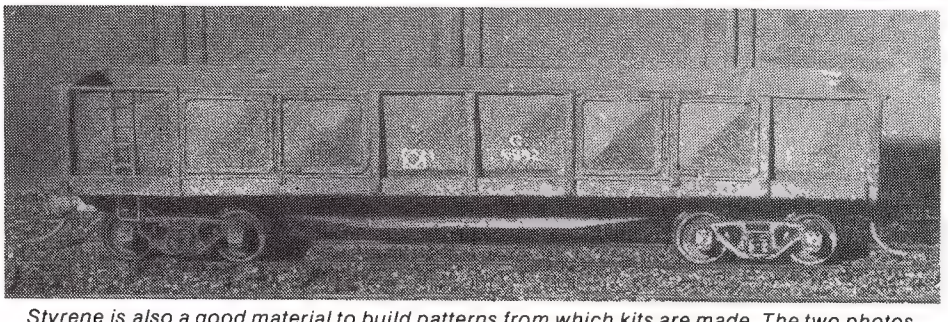
Some words of warning, though. Keep fingers well away from the joint and the M.E.K. otherwise the capillary action of the M.E.K. will not only weld the two pieces of styrene together, but also leave an accurate set of finger prints on the styrene. Joints with a large contact surface may require more M.E.K. than usual and, accordingly, should be allowed more time to dry. Experience will show how much M.E.K. is required to make a joint. It is surprising how little is required. Solvents should be kept in a small wide mouth bottle which should be made 'unspillable'. You would not believe the mess an M.E.K. spill will cause on a workbench, especially to a half-completed model resting on that bench. Although the 'weld' is almost instantaneous it is possible to move the joint during the weld/cure period, so care should be taken. But if the need arises, the joint can be pulled apart. Or if the joint has a large surface area, simply flood the joint with M.E.K. and pull the join apart leaving the sections for a few hours, so that the styrene section may retain its original shape Some trimming may be required. When making joints, where possible apply the M.E.K. to the area of the joint that will be unseen.

ASSEMBLY

Once the parts are cut to size assembly can be started. There are no hard and fast rules regarding assembly; however parts should be assembled 'dry' to ensure that the joint(s) is flush, i.e. the two surfaces to be joined touch together all the way along the joint. Small metal blocks can be used to ensure that joints are square. Joints should be dry and cured before other joints are made on the same pieces.

I make a point of holding the pieces on a flat piece of perspex or glass, (neither will react with M.E.K.) so that no line of the joint will meet with the working surface. This prevents the solvent from running between the working surface and the model which may damage the styrene surface of the model.



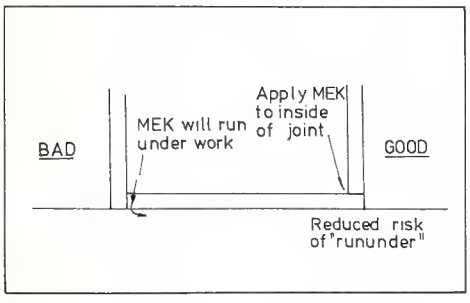


Styrene is also a good material to build patterns from which kits are made. The two photos above illustrate two models built from kits, the patterns for the latter being made from styrene sheet. The photo shows a NSW 'BCH' while the lower photo shows a NSW 'G' wagon. Both models were assembled from kits by the author, who also made the patterns and cast the kits from silastic moulds using Plastibond as casting material.

I also try to apply M.E.K. to the inside or unseen side of the joint, again reducing the chance of damage to the styrene surface of the model.

It is also necessary to plan assembly in advance to prevent a situation occurring where it is difficult to hold pieces, or apply M.E.K.

Do not force pieces to make a joint, as this may lead to warping or twisting at a latter date.



PAINTING

Before painting a styrene constructed model, try the paint on some scrap material. Some paints will 'craze' the surface; others will soften the surface, similar to painting with a solvent. In some instances Floquil paints will react with styrene if the model is not protected with a coat of Floquil Barrier.

Before painting all traces of dust, grime, etc., should be removed by washing in luke-warm water. The model should be left to dry naturally in a clean area.

Styrene can be either brushed or sprayed easily and can be weathered by the usual methods. Styrene models should not be baked or heated.

CONCLUSION

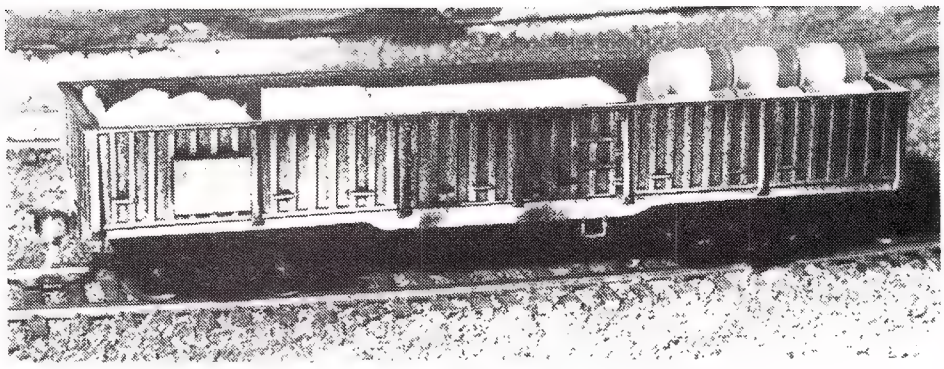
It is possible to fabricate models quickly using the above basic methods. The variety of items which can be fabricated using styrene is only limited to the imaginations of the modeller.

Many fine articles have been written describing many methods using styrene. A short list of some of these articles are printed below. Many are out of print now but are very helpful if you can manage to scrounge (beg, borrow or steal) them from somewhere.

Magazines

Australian MODEL RAILWAY Magazine

Issue 63	Narrow gauge Carriages in Styrene
Issue 73	Wagons in Styrene
Issue 78	Build a BHG in ProtoFour
Issue 79	Simplicity of Styrene Windows
Issue 86	NSWGR KF/CKF flat wagons in styrene.



Graham Ball, used the air brush to heavily weather this HO scale model of a 'BD' wagon, from the N.S.W.G.R. system. The model was built from styrene sheet, the raised pressings on the side being individual sections of styrene, cut and bonded in place. G.Ball photograph.

Model Railroader

Dec'67	Build a Baldwin
Jul'68	Sawmill Machinery & Sites
May'69	New Plastic for Modellers
Oct'74	The Locomotive You Wanted But Couldn't get
Dec'75	Building a 100 ton Steel Coaling Station
Aug'75	Riveted Steel Covered Hopper Car
Oct'78	Triangle Service Station
Aug'78	Scratchbuild D. & R.G.W. High Side Gondola
Mar'78	Scratchbuild a depressed Centre Flatcar
Jan'78	The Sterlingworth Steel Hopper Car

Narrow Gauge & Short Line Gazette

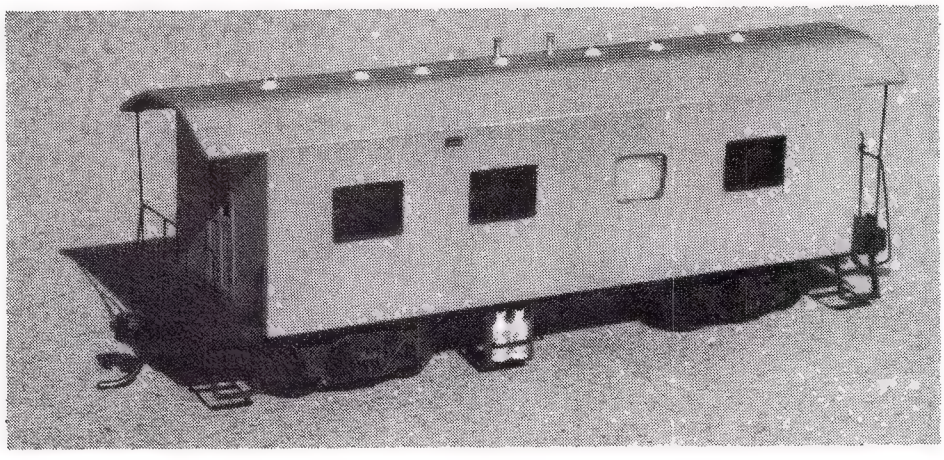
May/Jun'78	Getting Your Feet Wet with Styrene
Mch/Apl'79	East Broad Top R.R. Weight Car
Nov/Dec'79	J.D. Robertson & Son, Building Supplies

Railway Modeller

May'72	Building a Compound from Styrene Sheet
Feb'73	Struggling with Styrene
Jan'74	Styrene Sheet Modelling — A Percussion Tank in 4mm Scale
Sep'74	Southern Bogie Scenery Van
Apl'76	The Plastic Prairie
Sep'78	Modelling Old Time Coaches
Apl—July'78	Building Your Own Coaches

Books

Styrene Fabrication by Al Armitage — Booklet published by Kemtron



SAR workers car on ex caboose underframe. Model by Phil Curnow. Styrene body on wood chassis, Kadee couplers and bogies. The model is yet to be lettered.

KULGERA. *Continued from page 16*

and save a lot of money.

At worst they can clear over $500 a fortnight.

Apart from the cost of a beer, there is not much to come out of that $500.

Accommodation and meals — great meals at 40 cents a time — are deducted from pay. Tax is out. Its cheap living. With a few skills, men graduate to use the more complex track laying equipment.

As they get practised at the various jobs, their money goes up quite steeply.

Saving $10,000 a year would not be impossible for a single man in Kulgera.

While the sun makes the men sweat, it also makes the radio communication network operate. There is an impressive system of radio communication alongside the track. Every 30 kilometres or so, there is a very tall radio mast with a repeater station. Each facility is powered by solar energy.

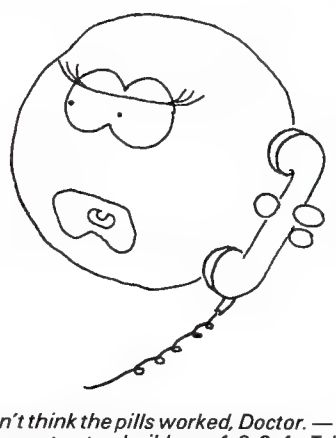
The Tarcoola to Alice, the ANR says its the largest single railway project in Australia for 60 years.

The present Ghan line is slow and inconvenient, and in the wet seasons, virtually unworkable. But it still has about it a romance.

The new Ghan and its construction has about it a romance as well. A modern day romance; something that is intangible, but nonetheless, real.

It's blistering hot days, bitterly cold desert nights, red dust going on for ever, a slow, often scorching wind, millions of flies and sometimes torrential rain. The track is being built for the odd times that it rains each year.

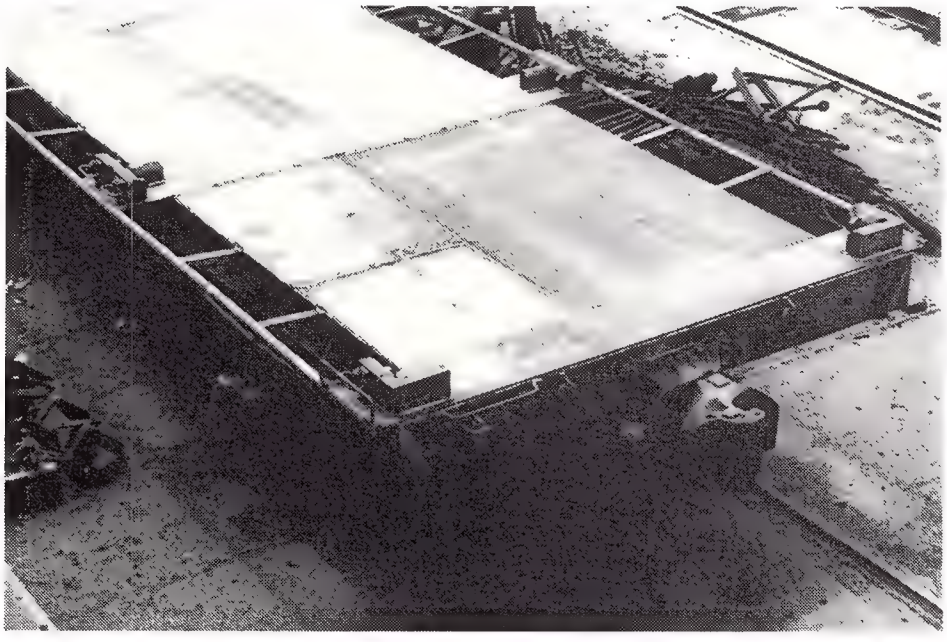
Graham Howard.



"I don't think the pills worked, Doctor. — He still wants to build a 4-8-8-4 Triple Expansion Golsdorf Loco!"

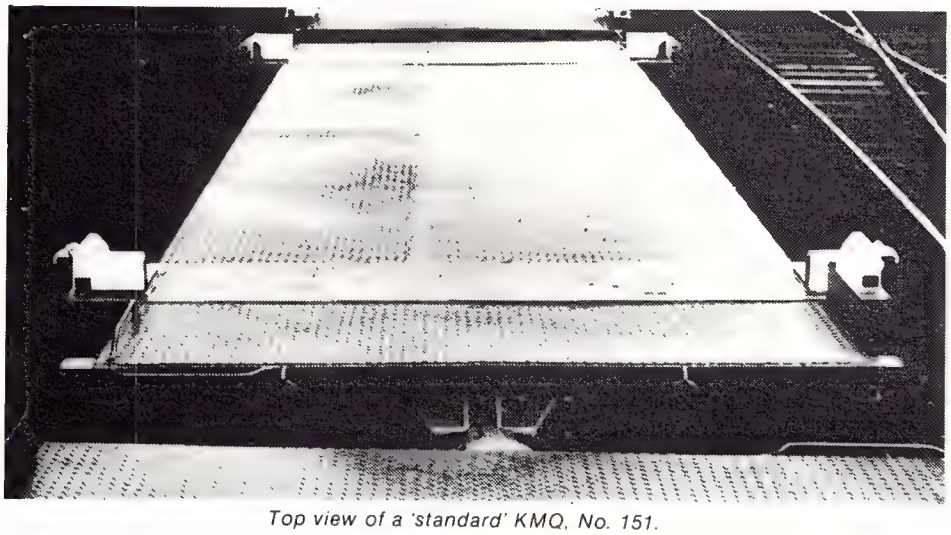
4-WHEEL CONTAINER WAGONS ON THE VR.

Compiled by Peter Vincent and Ian Weickhardt.
Photographs by Peter Vincent unless otherwise specified.
Plans by Ron Wrigglesworth.



Top of KMQ 133, one of those used by Dyer's of Sale. Frame member locations are shown up by weld marks forming lines of dashes down length of wagon, during the construction at Bendigo North in December 1976.

Side view of KMQ 1, at Woodend in August 1975.



Top view of a 'standard' KMQ, No. 151.

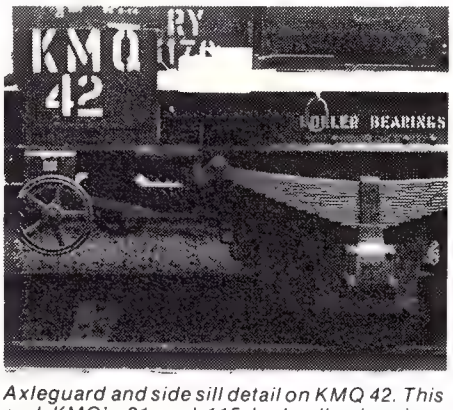
The rapid growth of container traffic on Australian railways meant that each system had to find suitable wagons faster than new ones could be built. On the VR, this meant the conversion of existing 4-wheel vehicles for container cartage, as well as the construction of special new bogie container wagons such as SFX's and FQX's, ISO Standard containers were catered for on the 4-wheeled KMQ's. Export fruit containers and cattle containers are accommodated on the KQ's; certain specialised containers are carried on KC's and their sister classes. The peak years of such wagon usage were from the mid-60's to the mid-70's. Many of these "make-do" wagons are now scrapped.

KMQ Wagons

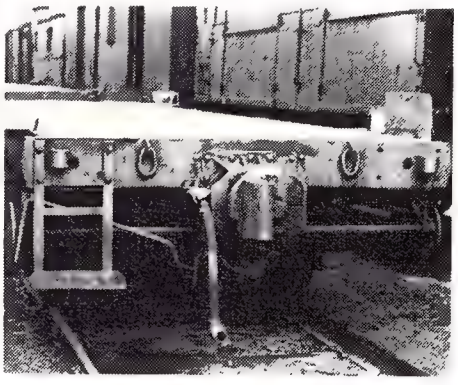
The accompanying drawings of KMQ's represent the two most common types of KMQ. The most common type is that used for transport of standard 20ft. containers. These KMQ's consist of chassis from 15ft. wheelbase T or U vans, covered with a steel checker-plate deck, and fitted with container locks for centrally locating the container. Because of their origin as long-wheelbase T or U vans, most have a wheel-actuated handbrake; however at least two (111 and 136) have lever handbrakes. These are from U's, as many U's were converted to lever handbrakes during the 1930's. There are several functional groups of KMQ's. The groups are as follows:

No's. 1-132, 136-180: to take 1 x 20ft. ISO container.

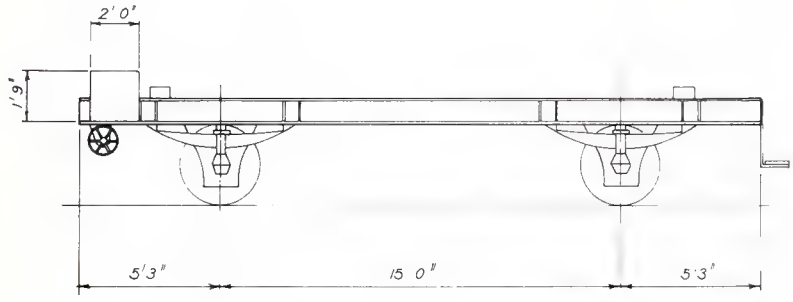
No's 77-80: although part of the first group, these wagons have extra locks for the

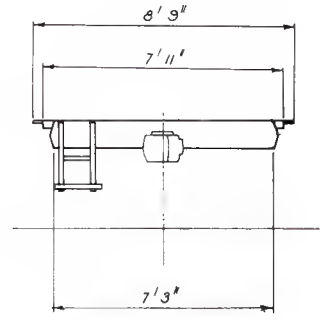


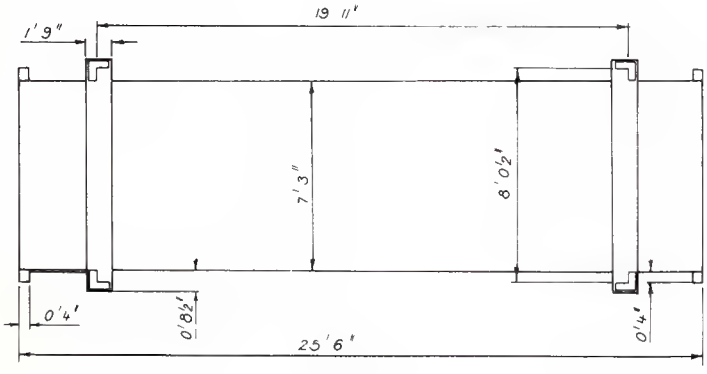
Axleguard and side sill detail on KMQ 42. This and KMQ's 31 and 115 had roller bearings instead of the usual plain metal bearings.

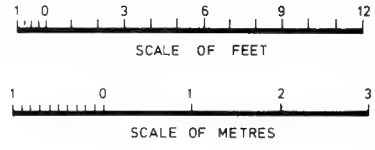


Handbrake end of KMQ 12.





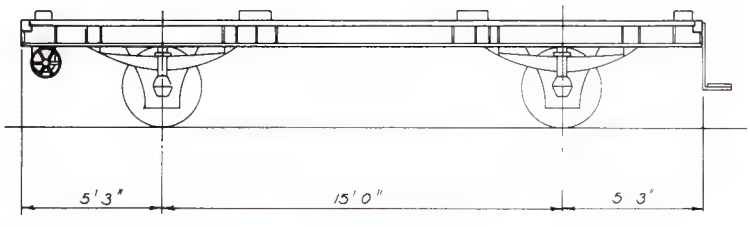


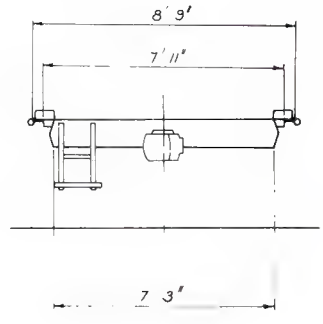


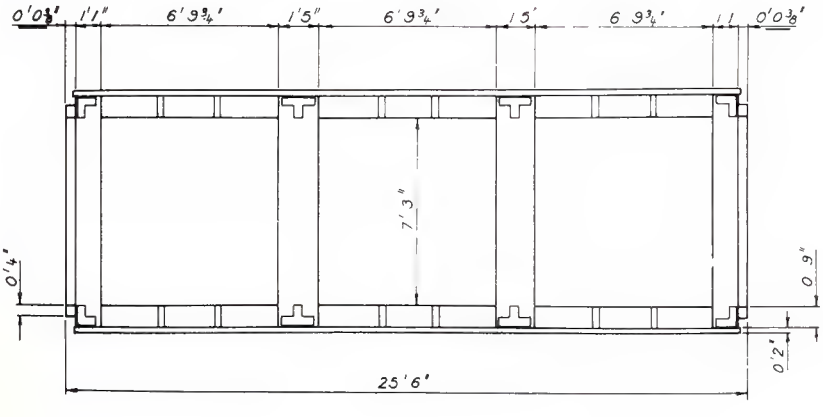
VICRAIL 'KMQ' CLASS CONTAINER WAGON 15'0" WHEELBASE

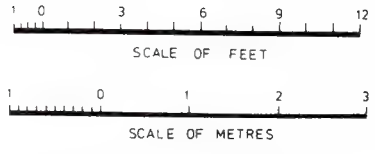
Drawn from photographs supplied by P Vincent and dimensions obtained from KMQ 13 Dandenong sidings 15 November 1977

Drawn R Wrigglesworth — Nov. 1977





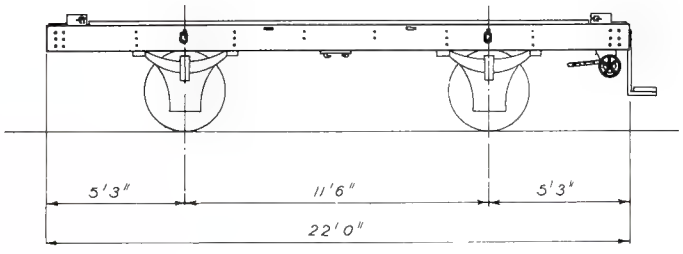


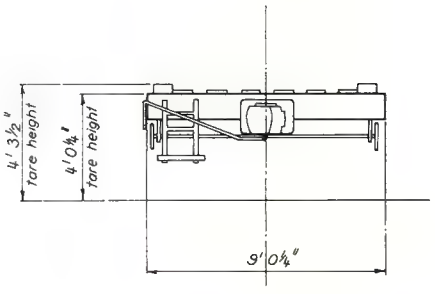


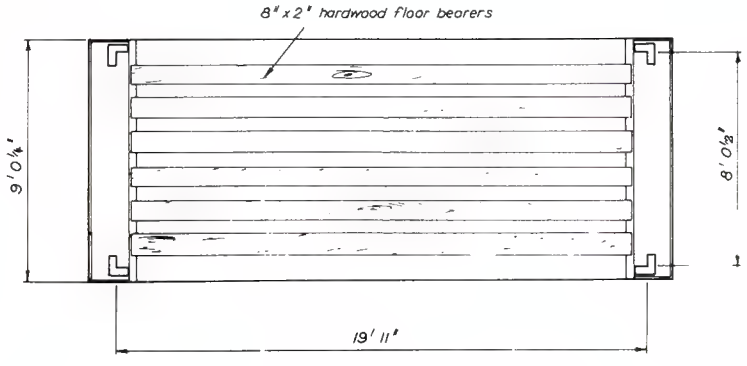
VICRAIL 'KMQ' CLASS 'PRIVATE OWNER' CONTAINER WAGON 15'0" WHEELBASE

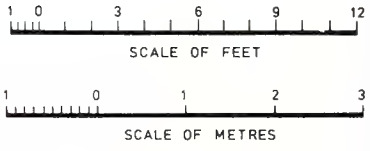
Drawn from dimensions obtained from KMQ 134 & 135, Dandenong sidings 15 November 1977

Drawn R Wrigglesworth — Nov 1977





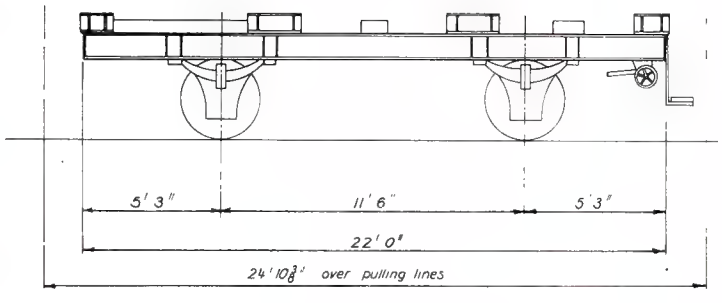


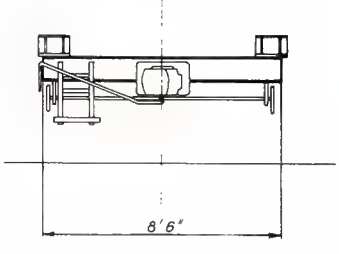


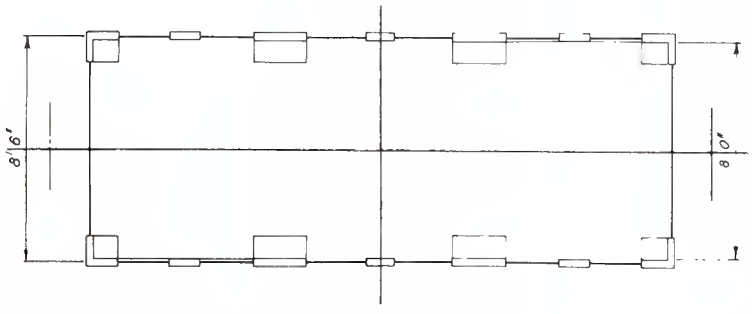
VICRAIL 'KQ' CLASS
CONTAINER WAGON
11'6" WHEELBASE

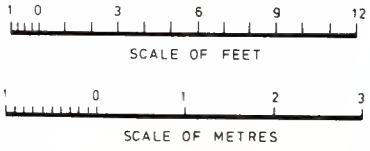
Drawn from V.R. information

Drawn : R. Wrigglesworth — April '77









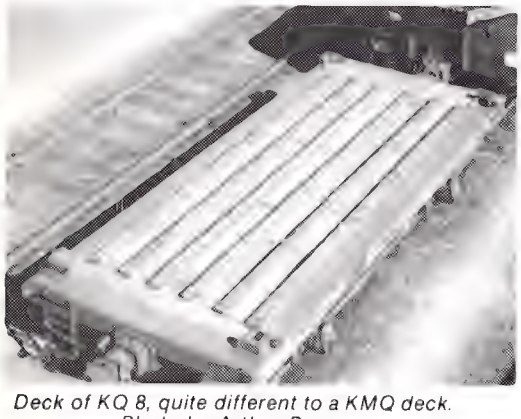
VICRAIL 'KC' CLASS
CONTAINER WAGON
11'6" WHEELBASE

Drawn from V.R. information

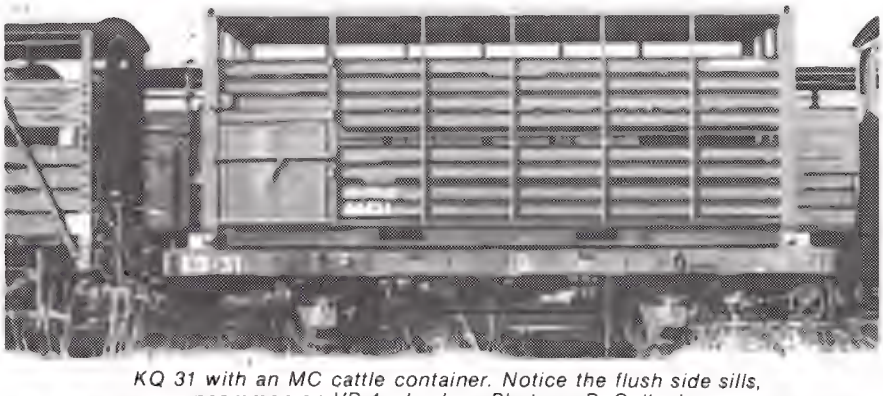
Drawn R. Wrigglesworth — July 1977

Handbrake end of KC 106. The opposite end is identical except for brake wheels.

KC 106 loaded with Tallow containers at Wodonga in April 1975



Deck of KQ 8, quite different to a KMQ deck. Photo by Arthur Perry.



KQ 31 with an MC cattle container. Notice the flush side sills, uncommon on VR 4-wheelers. Photo — R. Gallagher.

Deck of KC 85 and KC 89 at Shepparton. Photo by Bob Gallagher.

securing of a centrally located non-ISO 10ft. container. These containers, coded PS1 to 4, are for dry powder or pellet goods such as flour or stock feed, and consist of a pneumatic discharge drum-shaped container supported in a rectangular frame. The locks for securing these containers are retractable to enable the vehicle to carry a 20ft. container. These KMQ's are more often seen with 20ft. containers than with the PS containers.

No's. 133-135: to take three private-owner containers (each day) 8ft. 2½in. long. These containers are used in Melbourne — Sale traffic by the Gippsland cartage contractor Dyer's of Sale. The containers have doors on one side only. They are loaded and unloaded by fork-lift truck, directly from a goods platform. It must make for an interesting situation if a KMQ arrives at the platform with the containers facing the wrong way! These KMQ's are unsuitable for carrying any other kind of containers.

KMQ colours. They are painted the usual VR 'zinc chromate red', with white lettering. The numbers are stencilled on to plates which, on some earlier KMQ's, were often knocked about. The October 1978 issue of the ARHS (Victorian Branch) magazine *"Newsrail"* carries an article discussing the placing of KMQ numbers, together with some good pictures of KMQ's.

180 KMQ's were built. Scrapping was under way at the time of preparation of this article (November, 1978).

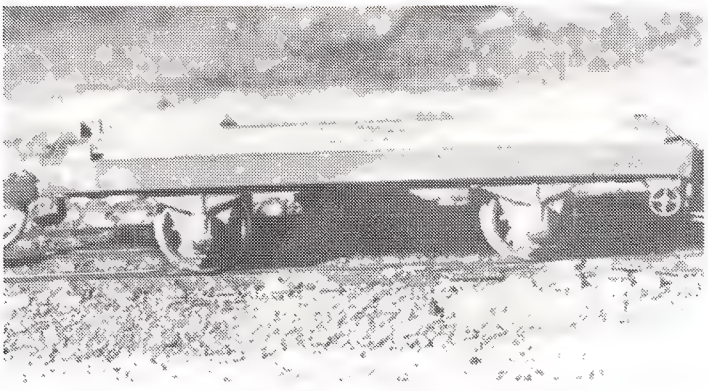
KQ Wagons

The KQ is regularly seen loaded, either with MC-class cattle containers or fruit export traffic containers. Like the KMQ, they are a conversion job. They were converted from outside-sill RY open wagons. The RY's were in turn converted from IZ class open wagons built between 1928 and 1930. Modellers who have 'converted conversions' may be gratified to know that it is a well established prototype practice. KQ's are numbered from 1 to 60. They are painted the same colour as KMQ's.

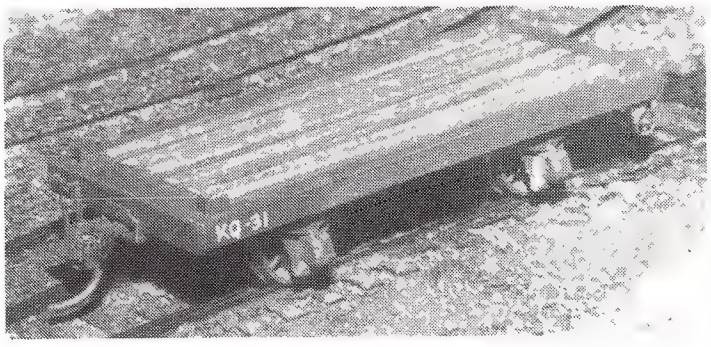
KC Wagons

These are another 11' 6" wheelbase vehicle, being a conversion from IY class 22-ton capacity 4-wheel open wagons having wheel handbrakes. They are used for the cartage of 3 'LCL' (Less than Car Load) containers. The VR made a big publicity issue of LCL containers in their 1966 booklet *"Rail Wagons for Every Freighting Need"*. They presented the "RailPak" system as follows: "These (RailPak) include insulated and ordinary LCL containers, hired out by the Victorian Railways, and a wide range of customer-built types. RailPak advantages are: perfect rail-road co-ordination, elimination of goods handling between consignment and delivery, bulk handling benefits and saving in packaging, bank-vault

Continued on Page 40



KQ 31 the model, as photographed by Graham Ball.



A three quarter overhead view of KQ 31 shows the deck planking The method of staining the timber planks, as described in the article, is evident in this photograph. G. Ball Photograph.

BUILD A KQ .....or two

Bob Gallagher uses styrene to build a model of a Victorian Railways container wagon. This simple model is ideal for the beginner.

I do not have a defined, distinct reason for building this vehicle except to say that I have a fondness for flat wagons. Very few of my close associates share this fondness; in fact some are quite blunt in their expression of their dislike to such vehicles. I do, however, feel that in a flat car, a modeller has a challenge not only to build the model properly but to give it character, which to me means to detail the underframe (as well as the deck) as far as my ability will allow — plus some — just to make sure I am trying. The last and probably the most genuine reason is that I was very impressed by the sight of cattle container MC1 on four wheel container wagon KQ31 in Williamstown yard in March 1975. Thus KQ31 (and container MC1) is the base vehicle upon which this article is written.

It is important to note that the method used to model KQ31 can be used to make many other four wheel flats, photographs of other models, built to the same method, being included in the article.

The prototype details, plan and photograph for a V.R. KQ are in another article in this issue commencing on page 22

Also printed in this issue is a detailed article on modelling with styrene sheet, written by Ian Thorpe. This article covers many of the so called secrets that apply to working with styrene. For this reason, some of the actual procedures in this article will be brief, modellers not experienced in using styrene being recommended to first read Ian's article.

Providing all components are on hand, this sturdy Victorian Railway four wheeler can be built in an evening. A simple model, the basic modelling technique is ideal for the beginner or the old hand.

Material List

Styrene sheet, 1mm (0.040"); 0.5mm (0.020"); 0.25mm (0.010") thick.
North Eastern Timber 0.5mm x 2mm
Kadee No.5 couplers (or to suit)
Kemtron Brakewheels (No.652)
Axle Boxes to suit
10.5mm pin-point wheel sets
K & S 0.20 brass wire
MAC ladder section (4mm wide)
Lead sheet
Mini staples
Air Resevoir (4 wheel wagon type)
MEK solvent
Super Glue
MGW Bearings.

Obtaining any of these materials/ components should be simple, Styrene stock being available from most hobby shops and the North Eastern Timber is available from Model Dockyard, N.K. Hobbies or McBees Hobby Centre. The brake wheels can be obtained from any hobbyshop who has an account with Walthers, or direct from Walthers in the U.S.A. The axle boxes used in the article came from McBees Hobby Centre and are sold as short or long spring units, but others, resembling V.R. prototype are available from the Arcade Signal Box (T. & B.J. Models), Berg's Hobbies or Model Dockyard. It should be noted that the article was written using the axle boxes from McBees Hobby Centre and all dimensions relate to these journals, and adjustments must be made where alternatives are used. The wheel sets used were Berg's spoked 10.5mm wheels with pin-point (MGW) bearings, but any 10.5mm wheel set will suffice as long as adjustments are made to the axle box positioning to ensure that the wheels freely run in the bearings.

Tool List

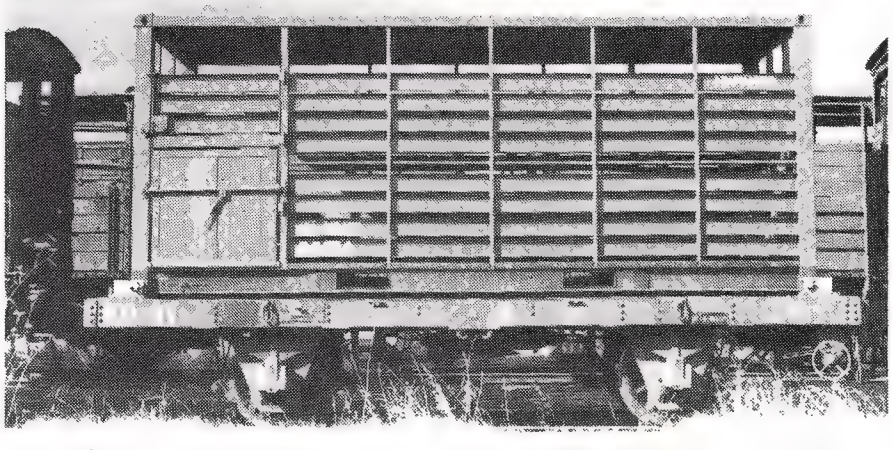
Steel rule (metric)
Steel square
Sharp knife (scalpel)
Small files
3H pencil (sharp)
Fine brush
No.73 (0.023 in) drill
Pin Vyce
5/64" drill
1/8" drill
Tweezers.

There is nothing special about the tools required for this project, for most of them should be found in a modeller's tool kit, most of them being used for many tasks on a model railway. The pin vyces are essential for holding fine drills.

Construction

The KQ is a simple vehicle and simple styrene procedures are all that is necessary to build the model. Those who have not read Ian Thorpes' article *"Modelling with Styrene"* in this issue, and have never worked with styrene before should now read the article, and then use the following instructions.

Kadee couplers are used and are recommended to the modeller who is looking for easy uncoupling between wagons and a coupler that looks like the real thing. If you are a newcomer to the hobby, Kadees are recommended as a good investment, for the



KQ 31, loaded with MC 1, in Williamtown yard, in March 1975. The inspiration and basis of this article. Es Davies photograph.

versatility and durability of the product will last the life of most models.

Pin point wheels and bearings are also used for the model in this article and are recommended to all modellers alike. The finely machined bearing to axle surfaces allow the vehicle to roll more freely which in the long term reduces maintenance. Free rolling vehicles also allow the underpowered locomotives on the market to pull a more reasonable length train.

The Underframe

Using the 1mm styrene sheet cut the base 74.5mm x 29.75mm, two side sill sections 77mm x 3.9mm and two end sills 32mm x 3.9mm.

It is essential to ensure that all sections are square and true, and this can be accomplished by the careful use of the square. First ensure that there is a straight edge on one side of the styrene sheet, if not then form one by using the steel rule as a straight edge and scoring a line onto the styrene and then breaking the waste section away. Now, using this straight edge on the styrene as the working line, use the square to correctly mark out the sections required, using the 3H pencil as a marker. If the pencil is sharp the line will be fine (no problems), but if the pencil is blunt the line will be coarse and cause problems in that there may be an error made when scoring along the line, for the score will be finer than the line and the modeller will have to choose which part of the coarse line to cut along. It is odds-on that the part will be incorrect in size.

Once the parts have been formed, ensure that there are no burrs or ridges on the edges (if there are remove them with a sharp blade or file). On the base, draw a centre line down the length of the material (using the shiny surface) and draw two lines across the base, the lines reflecting the centre of the axles. (See Fig.1 for dimensions, or use the plan for reference). A flat work surface is needed and a section of plate glass, clean particle board or a clean laminated surface (preferably not the kitchen table) will be adequate. Keeping the base down onto the flat surface add the side sills to each long edge of the base. Use the M.E.K. and the fine paint brush for application. When cured the side sills should be level with the top surface of the base. Trim off any excess where the side sills overhang the base, keeping the ends square, then add the end sills. (Refer to Fig. 2).

Fabricate a block of styrene 2mm thick x 11.5mm x 12mm for each coupler (using two sections of 1mm styrene laminated together) and secure in place in the centre of the underside of the base up against the end sill. Cut two sections of 1mm styrene 4.5mm x 52mm and, after cleaning, add to underside of base 5mm apart down the centre of the base. (The sections are glued to the base 2.5mm each side of the centre line and fitted between the two coupler bases. Reference Fig.2).

Using tin snips or a sharp knife cut sections of the lead sheet a shade under 5mm wide and 52mm long, and pack it between the centre sills in the centre of the wagon and then cover it with a section of 0.5mm styrene 8mm x 52mm. Leave to cure (approx half hour).

Axleboxes

Using the McBees short spring V.R. metal axle box, prepare the journal for insertion of the MGW pin point bearings, by drilling a hole 2mm deep with the 5/64" drill, using the dimple on the rear surface of the axle box as a centre. The hole is then further drilled with the 1/8" drill but only to a depth of 0.5mm on the side of the hole. The MGW bearing should be able to be a snug fit into the hole with its face level with the surface of the rear of the axle box. When satisfied correctness of fit, etc. secure in place with Super Glue (Repco-Woodhill is great).

The axle boxes are then added to the base using the axle centre markings as a guide. Glue (with super glue) the first axle box in place, so that the edge of the springs just clear the inside edge of the side sill by 0.25mm (Fig.4). Ensure that the axle box is true to the side and square to the axle centre before securing in place. Leave for a minute or so to let the glue cure and then hold a wheelset in place and fit the opposite side axle box. Hold the axle box in place with the tang of a file and adjust the distance between the two axle boxes so that the wheels freely rotate. Too much slack will cause problems, as will too little end play. When correctly adjusted and the axle box is square to the side sill glue in place. Repeat the process with the other axle box/wheelset and, when complete, place on a level section of track. There should be no body roll (or rocking) but if there is, the offending axle box must be identified, removed and in turn replaced. Usually the problem is caused when the bearing hole is not drilled in the centre of the box, so it is always wise to compare axle boxes and put them onto a wagon in pairs so that the axle holes are on the same level plane.

Deck Detail

Cut six strips of the 2mm x 0.5mm timber into 65mm lengths, cleaning with fine sand paper. Refer to plan and glue each strip onto the deck. The Repco Woodhill Super Glue was found to be a satisfactory adhesive for this purpose, but an epoxy cement would also suffice. Form container lugs out of 1mm styrene. They are 'L' shaped and 5" tall, so need to be about 1.75mm tall. For positioning, the modeller has the choice to either fix them in the prototypical position (i.e. to fit a 20ft by 8ft container) or fix them in place to suit a commercial brand of container, which is not necessarily accurate in overall dimensions. Fix to the deck with MEK.

Couplers

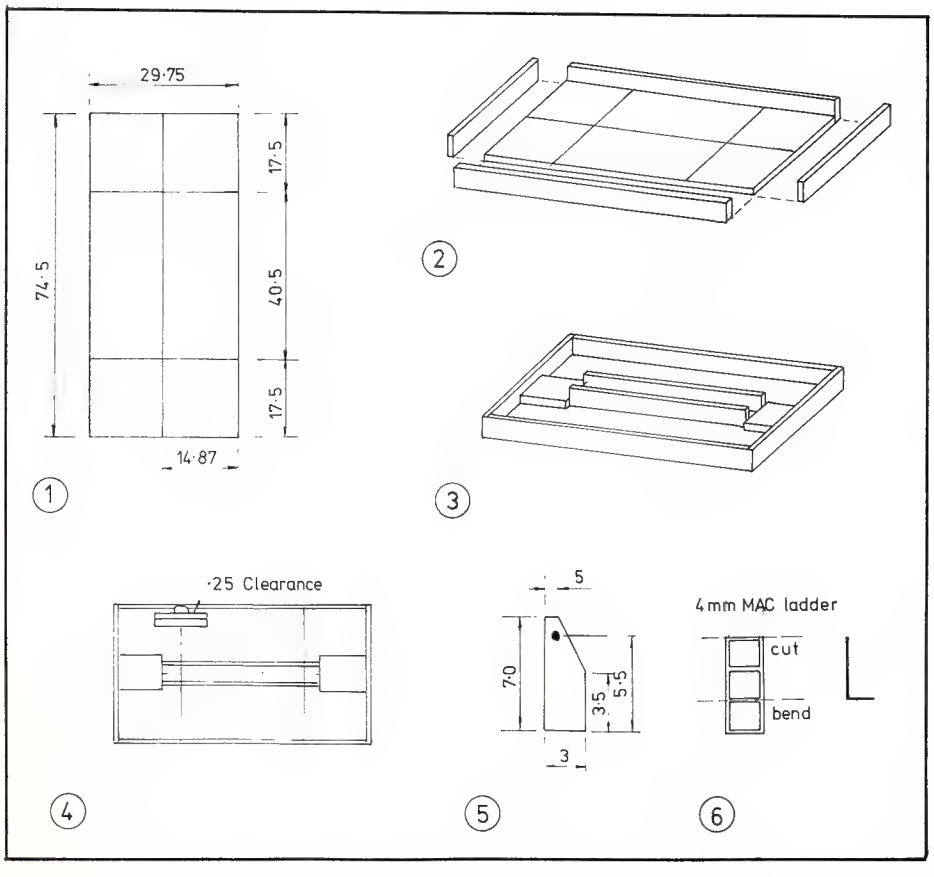
Assemble the Kadee No.5 couplers according to instructions, and carefully glue the coupler body sections together with MEK, ensuring that the coupler head and arm are completely free and that it centres correctly after being moved from the right and the left.

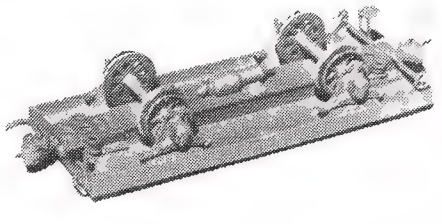
Place the vehicle on the track and determine its 'track centre'. An easy method of determining the 'track centre' is to use a Kadee coupler gauge, the one used to check correct height and arm clearance. The gauge should be attached to a section of track, and both units firmly attached to a section of timber. Determine the exact centre of the gauge by measurement and scribe a line along the top of the gauge body. This is a once only process. The vehicle is then placed on the track and the centre-line on the coupler gauge body transferred to both ends (separately) of the models. This process is necessary, for Kadee couplers work very well but do need to be installed accurately.

Using the pre-marked line as a centre point mark off 4mm each side of the centre line on the face of the end sill and remove the styrene between the marked lines down to the styrene block. Take the task easy so that the fit of the coupler into the slot is tight. If any discrepancy is to occur on the coupler positioning it must be left of the centreline and only by 0.5mm maximum. Fit the coupler and check for correct height using the pre-mentioned gauge. If heights are correct, glue the coupler in place using MEK, but if too high or too low, correct the discrepancy by either adding a styrene shim of filing away the excess, whatever the case.

Under-floor Detail

The air reservoir is attached to the centre of the centre sill section with super glue. Two grab rails are formed out of the 0.20 brass





KQ 31, resting on its deck, displays some of the detail usually hidden under the wagon. G.Ball photograph.

wire, the legs of the rails being 5mm apart. The use of a good pair of long nose pliers is useful, and the grab rails can be formed by gripping the wire with the pliers and bending the end of the wire at right angles to the wire held by the pliers. Repeat the process for the other leg of the grab rail, ensuring that the legs are 5mm apart. The grab rails fit into the end sill above the shunters' step. (Check photographs for reference). Drill the holes for the grab rails with a pin vyce and No.73 drill and glue the rails in place with super glue.

The shunters' step is a fabrication using MAC 4mm wide ladder. Refer to Fig.4 for directions, cutting and bending the ladder section where required. Cut a section of 0.5mm styrene 5mm x 3mm and glue to the step area with super glue. Fix the completed steps in place with super glue.

For the brake handle the Kemtron brakewheels (No.652) were used and only needed a couple of support brackets and wire to secure them in place. A couple of brackets are formed out of 0.5mm styrene to the shape indicated in Fig.5 Drill a No.73 hole where designated. Fix in place, with the straight edge toward the end sill, 2.5mm from the inside edge of the inside sill. MEK is an adequate solvent. (The base of the bracket sits on the underside of the floor). A section of 0.20" brass wire is cut to length and threaded through the holes in the brackets and the brake wheels fitted on and fixed in place with super glue.

Painting

No matter how good the model has been built up to this stage, the final painting will either produce a nice model or a poor looking unit. Prepare for painting by filling any holes with Selleys Panel Metal and leave to cure, removing any excess with either a wet and dry paper or any of the fine grit papers on the market at present. Special attention must be made to the joins in the styrene as evidence of the join should not be visible before painting.

Now for the painting. There is little doubt that an air brush will produce a better result for it can apply a very even fine coat of paint without hiding any detail. For the task at hand a Badger 250 brush was used (costing $6.50 a few years ago) and an air-bed compressor (off the car battery) for air supply. Floquil paint was used and a barrier was not applied. Before actual painting the wheel rims were covered with a strip of masking tape and a liberal amount of oil applied to the bearing surface. A black stain was applied to the timber sections on the deck and then the complete wagon was painted using only Floquil Zinc Chromate Primer as both undercoat and final coat. It must be said that the final finish is not specifically correct, for it lacks the shade of black in the V.R. goods wagon red as illustrated on page 40 of issue 100 (A.M.R.M. January/February 1980). But the colour is satisfactory to the author, for it is planned to heavily weather the model before it is placed in service.

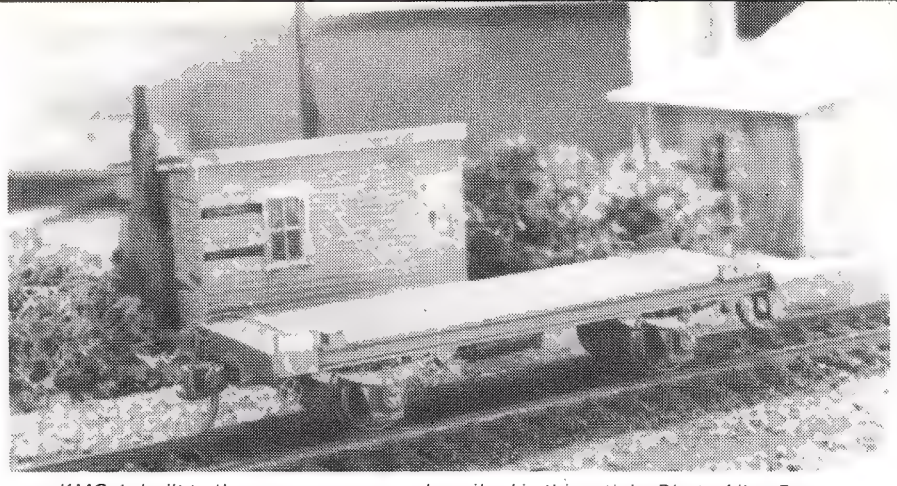
The model should be left to dry for a few days, then the masking tape around the wheels removed, and any excess oil on the bearing points removed with blotting paper. Then the paint on the timber strips should be scraped away to leave the black stained timber, which may require touching up with more paint/stain.

Lettering is the next step and unless you have a steady hand, or have a friend who has (thanks Ian) use a 6 point Helvetica white Letraset or similar.

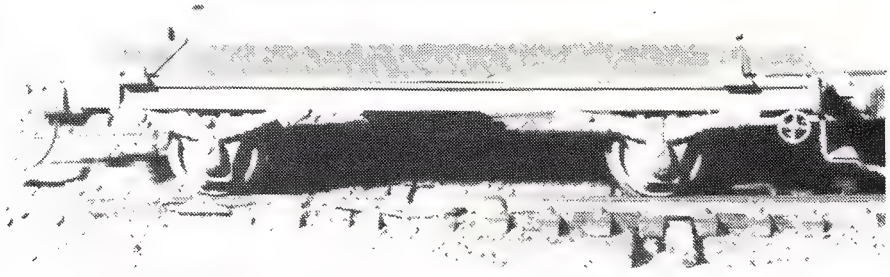
Conclusion

The time taken to actually build this wagon was one evening, in front of the T.V., but the painting and lettering process covered a full fortnight. However, to keep the hand in an extra KQ was built, and a KMQ and a KC, using the same process. The KMQ and KC are illustrated in an accompanying photograph. Finding the task so easy a string (7) of NSWGR KF wagons and (5) CKF wagons quickly followed at a completion rate of two a night,(not including painting). The point being made is that the task is not difficult and, in fact, a number of models can be quickly produced, for while one section of one wagon is curing another wagon can be worked on.

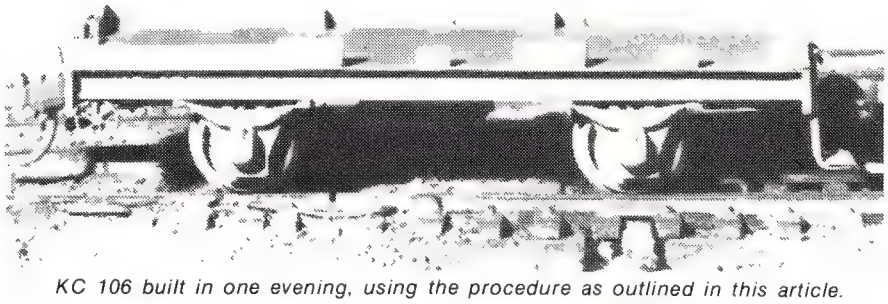
KQ31 will not be complete until MC1 has been made and placed on the deck, but that is another project and AMRM readers will have to look for the construction article in a future issue.



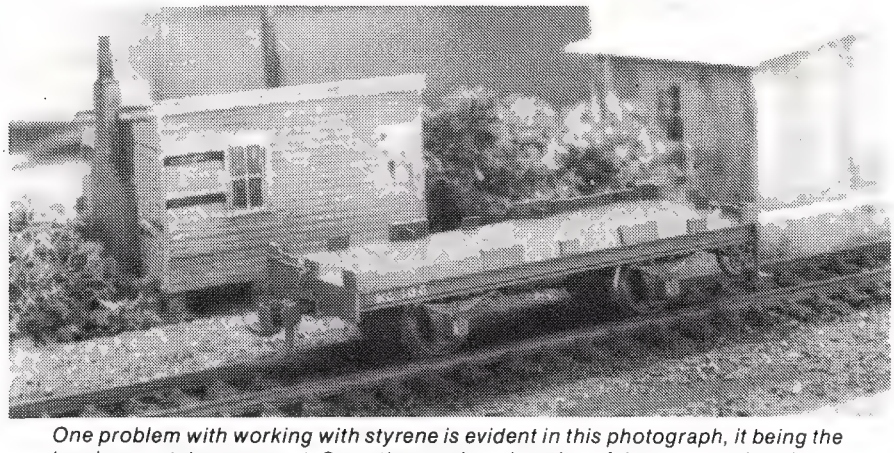
KMQ 1, built to the same process as described in this article. Photo Allan Brown.



KC 108 and KMQ 1, both V.R. four wheel container wagons, built to the method outlined in this article. Note that the KC wagon has the short spring axle box and the KMQ has the long spring axle box. A. Brown photograph.



KC 106 built in one evening, using the procedure as outlined in this article.



One problem with working with styrene is evident in this photograph, it being the leaning container support. Sometimes, when the edge of the styrene piece is not square, the part when fixed in place will move, usually when the modeller is not looking. Allan Brown Photo.

Acknowledgements:

Ian Weickhardt for his information, Peter Vincent for information and prototype photographs, Ron Wrigglesworth for his scale plans, Graham Ball for his model photography, Ian Thorpe for his diagrams and lettering and the Victorian Railways for providing an interesting subject to model, even if it took six years to come to fruition.

4303 and 4827 with an Up goods at the former station of Towrang in 1977.

THE 43 CLASS

by Peter Neve

The article on the 43 Class diesel electric locomotive was first published in the RAILWAY NEWS, the journal of the N.S.W. Schools Railway Club. A.M.R.M. is indebted to the article's author and the magazine editor Mr. Peter Neve for allowing us to re-publish the original article (up-dated) on this occasion. May I recommend the original article to those interested in the 43 Class as it contained an extensive pictorial coverage of the class. Ed.

Unless otherwise noted, all photographs were supplied by Leon Oberg.

Construction:

Following the success of the Canadian-built 40 class units, orders were placed in June 1954 with the Clyde Engineering Co. of Granville and Australian Electrical Industries P/L for six diesel-electric locomotives each, with particular attention being given to the aesthetic appearances as the units would be utilised in passenger as well as freight workings. The Clyde-built units became the 42 class, whilst the A.E.I. units were to become the 43 class.

As the main contractors, A.E.I. placed the mechanical side of their contract with the Newcastle-based firm of A. Goninan & Co., who were responsible for the actual construction of the locomotives. At the time, the 43 class were described as the passenger version of the 40 class Al-co-General-Electric units, being fully enclosed with a cab at one end only. The first unit of the order, number 4301, was handed over at a special ceremony held at Goninan's Waratah Works on 26th September 1956.

Description of the Unit:

The unit is mounted on two six-wheel bogies, but unlike the earlier 40 class, traction motors were fitted to all axles for maximum adhesion. Thus, despite having the same horsepower available for traction as the 40 class, the 43s were able to haul greater loads over the same grade.

The 43 class units are fitted with full cab controls at the No.1 end only, whilst a small section is set aside at the rear end of the locomotive for hostler control equipment and an independent brake for use when the unit is running light to or from its train workings. Thus, whilst running with its No.2 end leading, unless running in multiple trailing to another locomotive, it could not be used to

DATA SHEET — 43 CLASS

Unit No.	Builders No.	Date In Service	Stopped	Condemned	Set A/side	Disposal	Notes
4301	9	26/9/56	10/8/74 *	14/4/75		7/8/75	1
4302	12	11/1/57	23/1/76	4/8/76		26/11/76	2
4303	13	13/3/57	12/11/77	2/12/77			4
4304	14	15/4/57	5/7/77	2/9/77			4
4305	15	17/5/57	14/9/76	4/2/77		3/1/78	3
4306	16	7/6/57	4/10/79	28/10/79	9.10.79		5

Notes:

* Stopped for General Overhaul which was not proceeded with.

1. Unit stripped by N.S.W.P.T.C. Shell and frame consigned on date shown to Simsmetal Limited, St. Marys.
2. Unit stripped by the N.S.W.P.T.C., the shell and frame being delivered to Simsmetal Limited, Mascot where it sat for eleven months.
3. Cut up by Simsmetal Limited at Broadmeadow, on date shown.
4. Stowed Broadmeadow, dismantled.
5. Transferred to N.S.W. Rail Transport Museum, Thirlmere ex Cardiff on 12/3/80.

43 CLASS — TECHNICAL DATA

Performance:

Tractive Effort at 30% Adhesion:	70,900 lbs.
Tractive Effort at 20% Adhesion:	47,300 lbs
Continuous Tractive Effort:	40,200 lbs at 12 m.p.h.
Maximum Load and Speed on 1 in 40 Grades:	510 tons at 12 m.p.h.
Maximum Speed:	71 m.p.h.

General Design:

Engine Model:	Alco Model 244
Engine Type:	Turbo-Supercharged 4 stroke
Number of Cylinders:	12
Bore & Stroke:	9" bore x 10½" stroke
Engine RPM Idle and Maximum:	350 : 1000
Horse Power of Engine:	1750
Horse Power Available for Traction in Generator:	1600
Traction Generator Type:	GE 5GT 581 A1
Traction Motor Type:	GE 561
Number of Traction Motors:	6
Traction Motor Gear Ratio:	92 : 19
Axle Load:	17.6 tons
Total Weight:	105 tons 10 cwt.
Wheel Arrangement:	Co-Co
Wheel Diameter:	40"
Bogie Wheelbase:	13' 9"
Distance Between Bogie Bearing Centres:	28' 9"
Length Over Headstocks:	53' 10¼"
Length Over Coupling Faces:	56' 8¼"
Height (Maximum):	13' 9-3/16"
Width (Maximum):	9' 7"

Supplies:

Fuel Oil Capacity:	1165 gallons
Lubricating Oil Capacity:	167 gallons
Cooling Water Capacity:	208 gallons
Sand Capacity:	22 cubic feet

Comparative Permissable Loads:

Over the years, allowable loads for 43 class units were increased, and the following table gives examples as at timetables issued in 1964 & 1972, compared with the 40 class units (also 1750/1600 h.p.) and the 44 Class (1950/1800 h.p.) units over various ruling grades ... ...

Gradient:	40 Class		43 Class		43 + m/l	44 Class		
	Single	Double	Single	Double	Double	Single	Double	
1 in 75*	600	1200	700	1300	1400	800	1500	A
			750	1500	1600	850	1700	B
1 in 40*	400	800	550	900	950	600	1200	A
			550	1100	1100	600	1200	B
1 in 30*	300	550	390	730		420	800	B

* 1 in 75 = Picton to Moss Vale via Bargo.
1 in 40 = Goulburn to Demondrille
1 in 30 = Picton to Mittagong via Loop Line.
A = WTT — 21/6/64.
B = WTT — 14/2/1972
Loads shown in tons.
If a 40 & 43 ran coupled. double 40 class loads as above applied.

Track Availability

The following details lines over which the 43 class could (but, it must be noted, not necessarily did) operate. Sidings have been excluded from the listing.

Sydney Metropolitan Area
All lines, including City Underground, but excluding Camellia-Carlingford and Moorebank Ordnance Siding.

Illawarra Line
All lines excluding Metropolitan Colliery branch and Port Kembla Commercial Network.

Southern Lines
Main line to Albury/Wodonga, also Glenlee, Picton-Mittagong Loop, Moss Vale to Unanderra, Joppa Junction to Canberra & Cooma, Demondrille-Blayney, Cootamundra to Temora, Stockinbingal to Parkes, Cootamundra to Gundagai, Junee to Yanco and Narrandera to Jerilderie.

Western Lines
Main Line to Dubbo, also Wallerawang to Mudgee, Blayney to Demondrille, Orange to Broken Hill, Parkes to Stockinbingal, Molong to Dubbo and Dubbo to Bourke.

North & North Coast Lines
Main lines to Wallangarra and South Brisbane, Gosford (Racecourse) line, Wangi Power House, Toronto, Belmont, Newcastle, Port Waratah, Kooragang, Newdell branches, Werris Creek to Moree & Inverell, Werris Creek to Binnaway, Glenreagh to Dorrigo and Casino to Murwillumbah & Condong.

Overhauls:

General Overhauls were normally carried out at Chullora Loco Workshops, with Top Overhauls being done at Delec. Out-of-Course Repairs and Failures were normally handled at either Broadmeadow or Delec.

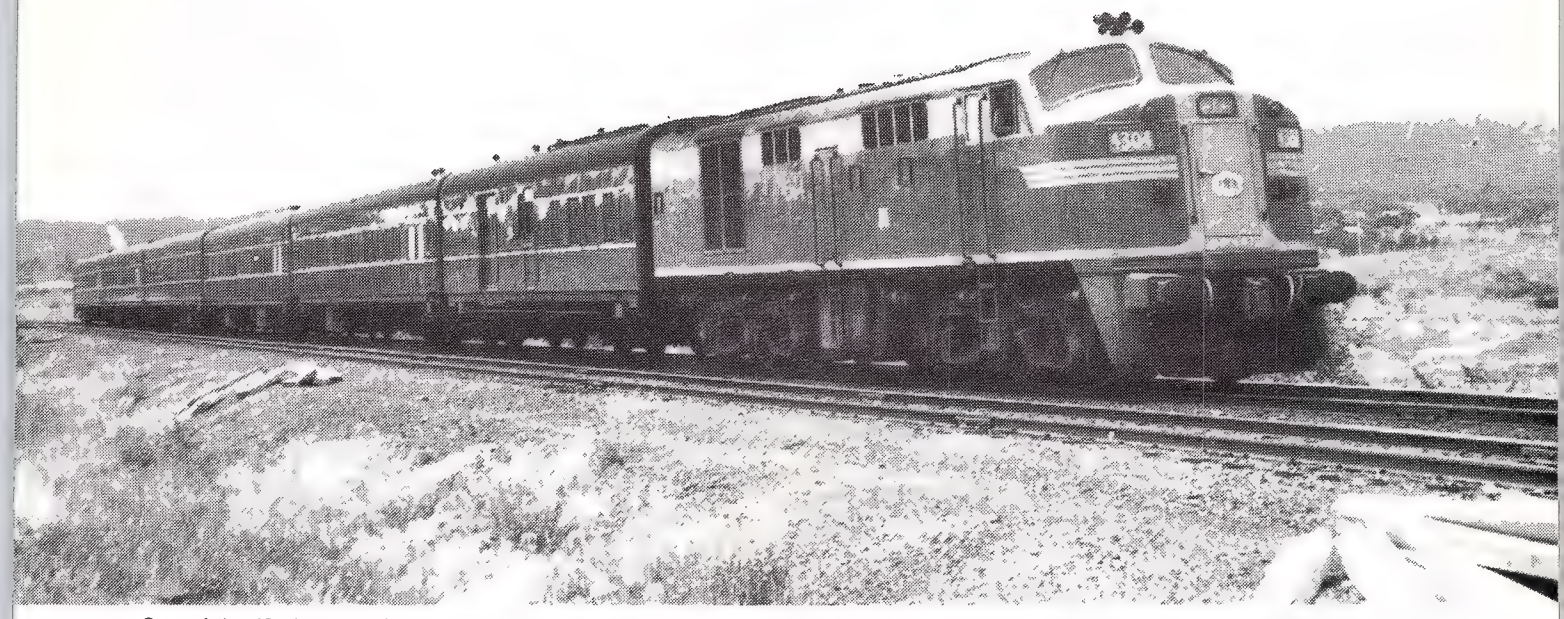
Acknowledgements:
'Railway Transportation' 11/1956 & 2/1957 issues; 'Here & There' from A.R.H.S. Bulletins, 1956/7; 'Modern Locomotives in Service on the New South Wales Railways' published by the P.T.C. of N.S.W.; 'Railway Digest', published by the A.R.H.S. N.S.W. Division and the author's notes.

haul a train (unless being driven from the No.1 end — see later in this article!).

The diesel engine fitted to the unit is a four cycle, single-acting supercharged Alco type 244-H, rated at 1760 h.p. and having two inlet and two exhaust valves per cylinder. Each of the twelve cylinders has a bore of 9" and a stroke of 10½". Engine speed ranges from 350 to 1000 r.p.m., and an over-speed safety device is provided: It is the same as fitted to the 40 class Alco-G.E. units, imported from

A birds eye view of 4305 showing the fan and fittings in detail.

As delivered the 43 class did not have the ladder and grab rails on the hostlers end as shown by this N.S.W.P.T.C. photo of 4302.



One of the 43 class regular rosters was the Riverina Express (particularly of a weekend or public holiday). 4304 is pictured on the south with No.15 Riverina on November 10, 1962, at this stage a 6 car RUB set in lieu of the normal 8 cars.

Canada in 1951-52.

Much of the electrical equipment is also similar to that fitted to the 40 class. The type GT.581 main generator is coupled directly to the diesel engine which delivers a power input to the generator of 1600 h.p.. All driving wheels are motored and the six GE-761 traction motors are four-pole machines, designed for operation with full or shunted fields. Total output from the diesel engine is 1700 h.p., but 150 h.p. is utilised by auxiliary equipment.

The traction motors, built at the Auburn(Sydney) plant of Australian Electrical Industries Pty. Ltd. have a gear ratio of 93:18 and a tractive effort at 30% adhesion of 70,900 lbs and a continuous tractive effort of 42,000 lbs at 11.3 m.p.h. — which, as stated in an early publicity release is "greater than that of the D.57 class steam locomotive"! Maximum designed speed of the 43 class is 71 m.p.h. (114/km/h), whilst when running light engine controlled from the hostler cab, the maximum speed is 30 m.p.h. (48 km/h).

The bogies supplied by Bradford Kendall Ltd., are of cast steel construction, and are spaced at 28' 10" (8 788mm) centres. It is interesting to note that there is an off-set of 1.75" (44.45mm) because of the off-centering of the bogie centre-plates.

The control stand in the main cab at the front end of the locomotive is placed conveniently close to the driver, accommodating throttle and selector handles, reverser, air brake valves, regenerative brake control etc., and various driver warning devices. Other standard equipment includes Nathan air-chime whistles, marker lights, head light and back-up light, as well as staff exchanger, although the last-mentioned were later removed. Vigilence Control Equipment was later fitted to all units in the class. Traction wheel slip indicators are fitted; however, as with the 40 class, sand is applied to the wheels by the engine crew (in all other d/e units, this is done automatically).

Although early experiments were carried out with multiple unit operation with 40 class, in general service 43 class could operate in m.u. with any other class of diesel-electric locomotive other than the 40 & 41 classes. There was nothing to stop these classes operating together, provided both units were manned. When a 40 & 43 ran coupled, the two units could only convey double 40 class loads.

Although the 40 and 43 classes were both 1750/1600 h.p. units, it was possible for the 43s to haul increased loads, as all wheels were powered whilst on the 40 class the centre pair on each bogie were not.

Early Working:

First regular duty for class leader 4301 was to work the Central West Express throughout from Sydney to Orange and return, a round trip of 646 km. It commenced on these duties on 8th October 1956 being tabled to haul the seven car air-conditioned HUB set unassisted over grades as steep as 1 in 33 over the Blue Mountains. Diesel had replaced steam only the previous month, with 42 class units taking over from 38 class on 13th August. The Central West Express was the only western passenger train to be regularly diesel-hauled out of Sydney, this working ending with the commencement of electric operations into Lithgow on 9th June the following year.

Prior to the opening of the Diesel and Electric Depot at Enfield in May 1958, the six 43 class (along with the 40, 41 and 42 classes and the early 44s) were shedded in with the steam locomotives at Enfield depot. Displaced on Central West Express working with electrification of the Blue Mountains line, the single unit engaged on this operation was transferred to general working out of Sydney — freight or passenger, generally on the Main South or North, but occasionally working freights on the Illawarra to Thirroul sharing these workings with the 40s. As greater numbers of 44 class became available, the 43 class became general purpose units, being utilised either on passenger or freight workings as necessary. Because of their numbers, they were relatively rare on the Illawarra line, specially following the extension of through freight services from Thirroul to Port Kembla, owing to turning difficulties. Their use on South Coast passenger services was extremely unusual, basically because main line units have not been used to any great extent on Illawarra workings.

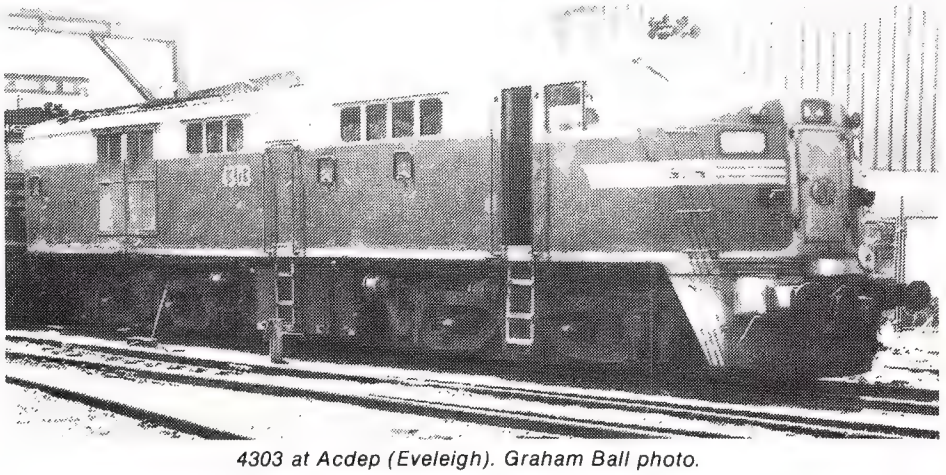
Later Operations:

Although in their earlier years there was no prohibition of the 43s working No.2 end leading as trailing unit to other diesels, this was later frowned upon — the official reason being difficulties which would result if the leading unit "failed" and the 43 was required to clear the section. Accordingly, for many years, 43 class (and the 42s) were always to be found marshalled No.1 end leading when working in multiple — whether or not the 43 was the front unit.

Deliveries of the final group of 44 class units saw the six 43s re-allocated in August/September 1967 to the Broadmeadow allotment, officially to assist in dieselising the Broadmeadow to Werris Creek Section-six C.36 class 4-6-0s being withdrawn as a consequence of the move. It was possibly around this time that staff exchanging equipment, which had earlier been removed, was refitted to the units.

However, over the subsequent years, the 43 class working became intermingled with general diesel operations. Despite being "officially" Broadmeadow-based units, the 43 class could still be found working

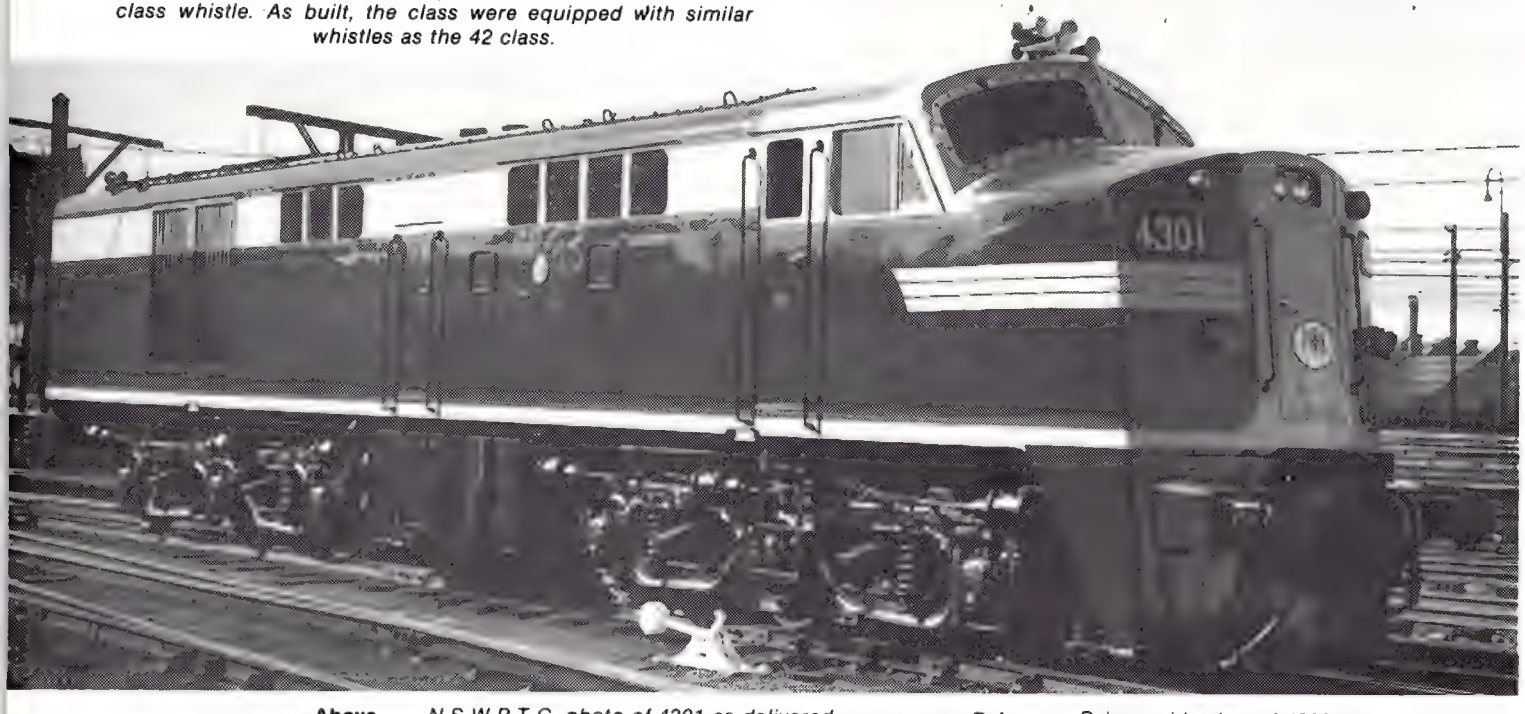
Plan overleaf *Text continued on page 38*



4303 at Acdep (Eveleigh). Graham Ball photo.

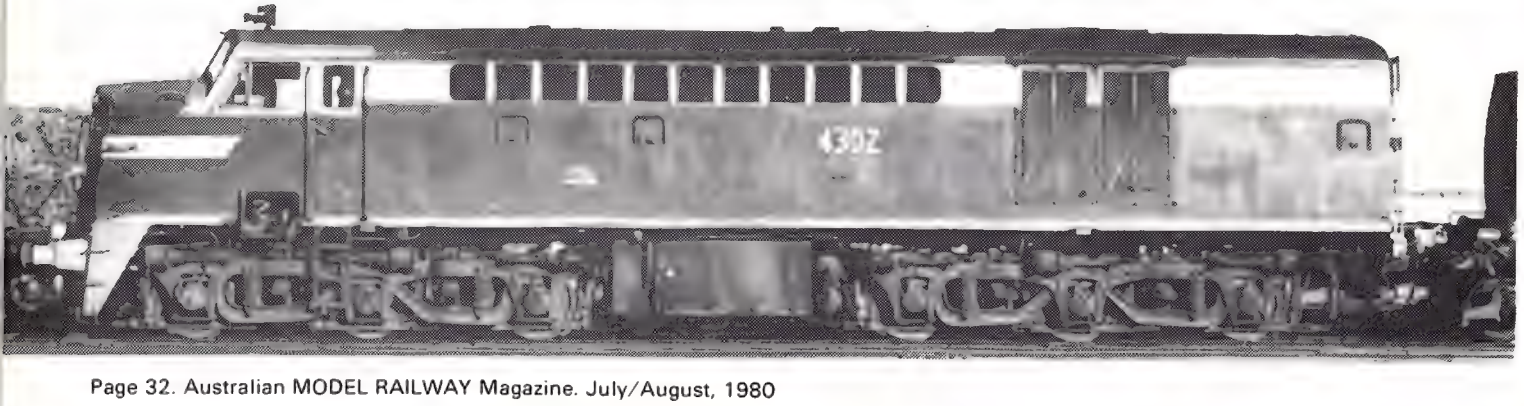
Front view of 4306 taken as recently as July 1978. Note the twin whistles, a recent years addition. 4301 and 4305 were similarly modified while 4302 was running around until the end with a 40 class whistle. As built, the class were equipped with similar whistles as the 42 class.

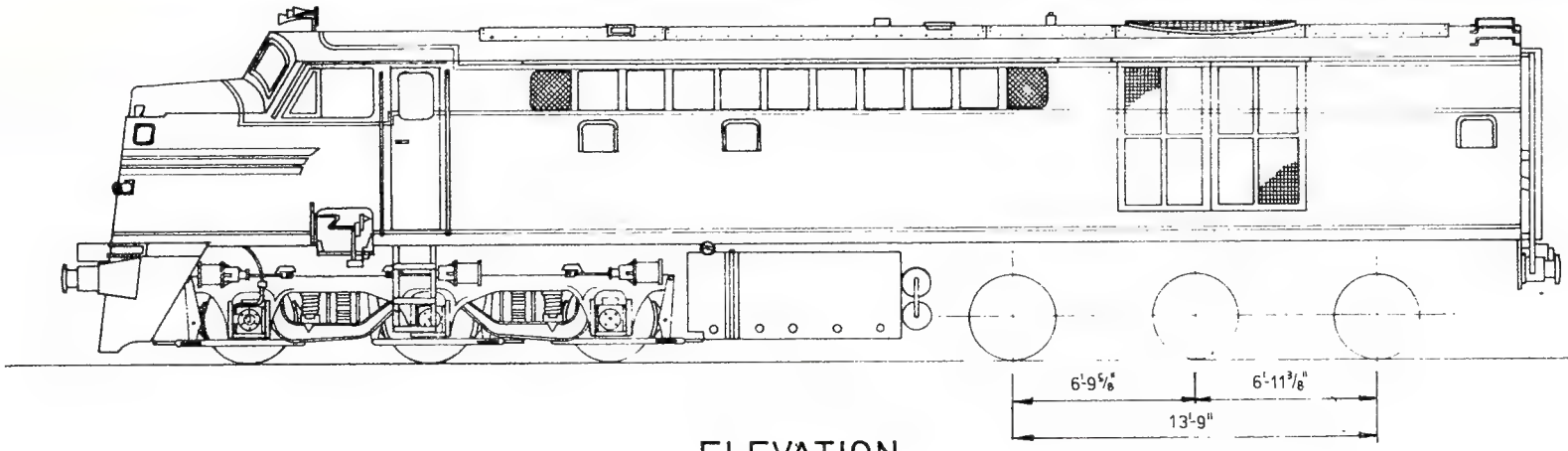
The rear end view of 4305, following its last visit to the paint shops. It will be noted that the strips were not continued onto the end plates.



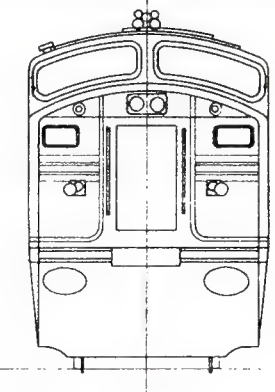
Above *N.S.W.P.T.C. photo of 4301 as delivered.*

Below *Drivers side view of 4302.*

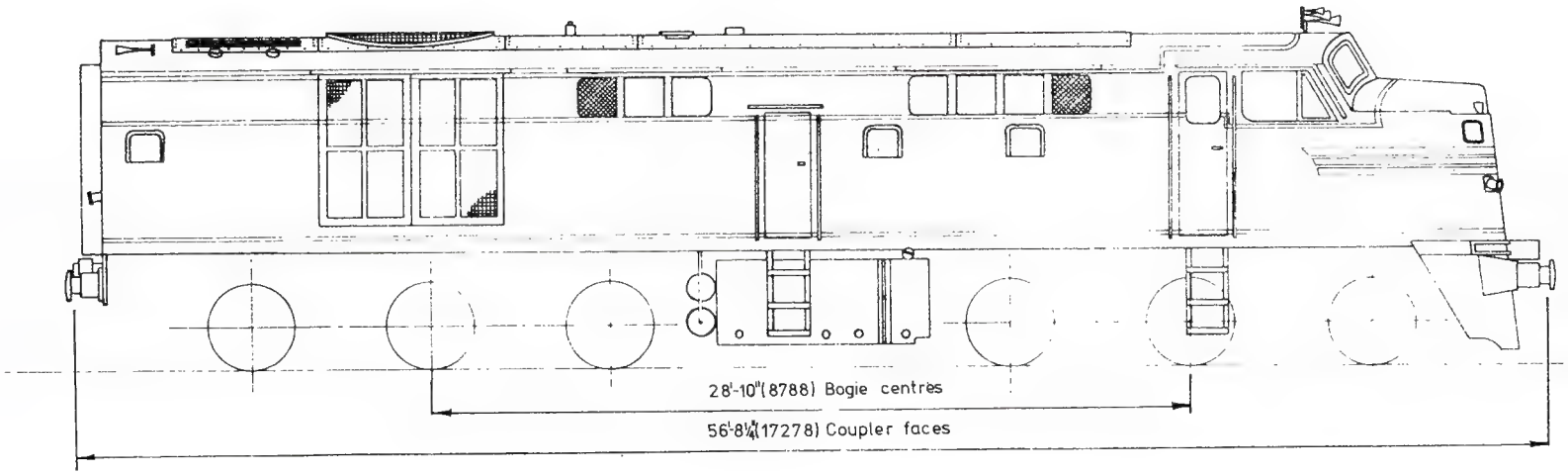


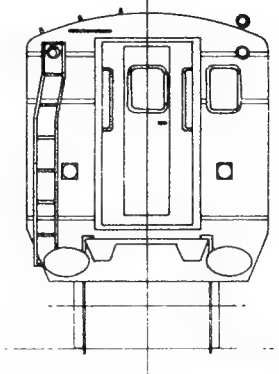


ELEVATION

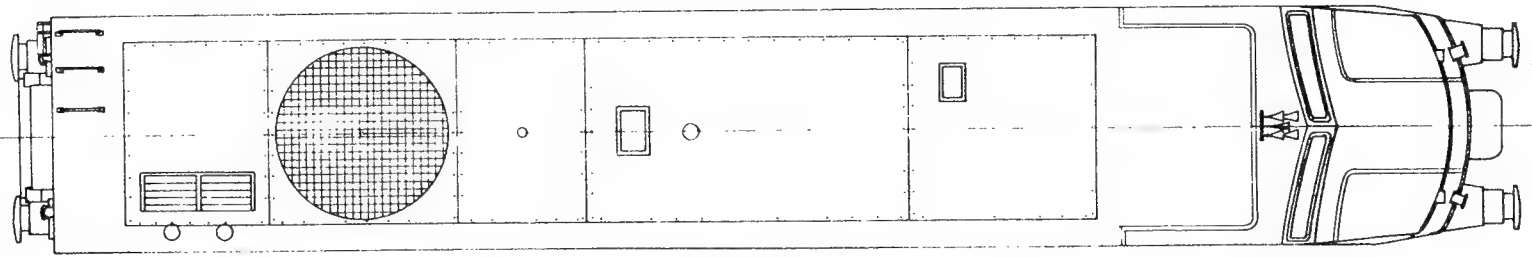


FRONT





REAR



PLAN

N.S.W.R.
43 CLASS
DIESEL LOCOMOTIVE

0 1 2 3 4 5 6 7 8 9 10

FEET

PLAN PREPARED FOR
A.M.R.M. BY HOWARD SMITH

843 shunts sheep trucks on the wharf at Outer Harbour. The vehicle beside the diesel is used to scrape the sheep droppings from the rails to give the diesel some traction.

"..AND AFTER THE SAR CAME ANR"

part 3 by Phil Curnow

Concluding a review of what is available for modellers of the extinct South Australian Railways.

Goods Rollingstock

OBF class four wheel open (AMRM Nov/Dec. 1975). Since publication the group 800-899 have been issued to traffic. I mentioned in that article that the OBF were built to replace the Y wagon and this occasion is not too far away. The Y class total has been reduced to such an extent that the first 200 of the OBF have been converted back to OF by repainting the doors grey and changing their coding but retaining their OBF number. This means that some of the roller bearing conversions are now in general traffic. The door seals which made them suitable for bulk traffic will not be maintained. The second group of OF differ from the original in the types of axle boxes fitted.

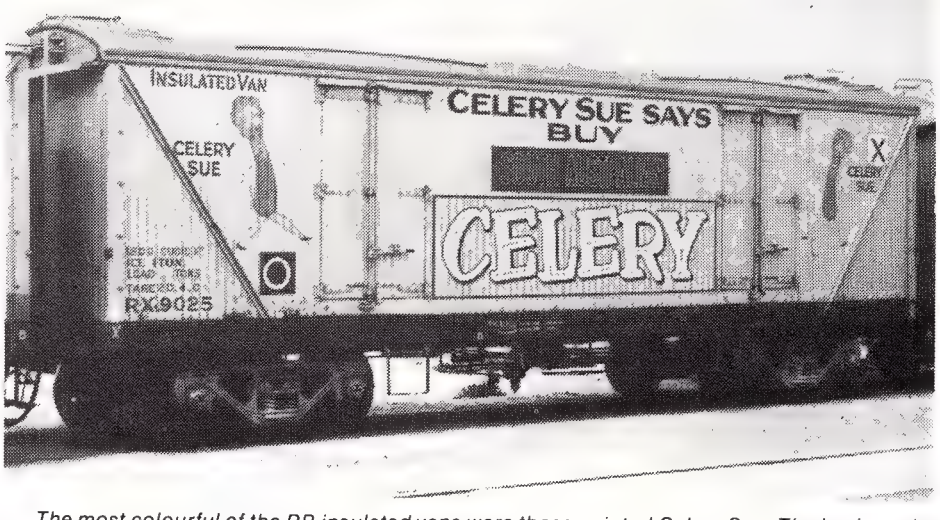
Y class four wheel open. (March/April 1979). These wagons may not last many more years on the broad gauge. The narrow gauge conversions look likely to last considerably longer.

W class bogie open. This old wooden sided wagon class is nearly gone. The steel chassis has truss rods and the wooden sides have only four planks. An article is awaiting publication.

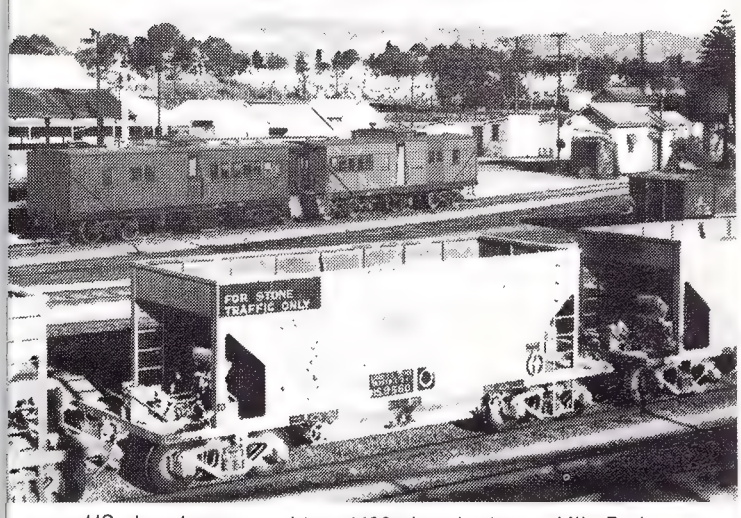
OW, OWP, OWS classes bogie open. This is the modern version of the old W. There are two chassis types with either solid or angle iron centresills. The wooden body has five planks. Steel ends have been fitted to all and the OW and OWP types are now extinct. An article is ready for publication. Both Northwestern Models and BJ Models have produced kits of the OW class.

FB class flatwagon. (AMRM Jan/Feb 1967). This American styled flat with depressed and rivetted side sill is another Webb era product. Contrary to the notes with the plan they were not deemed suitable for bogie exchange and worked on the broadgauge only. When the Moomba to Adelaide natural gas pipe line was to be constructed 96 of the FB style flats were modified for limited bogie exchange at Peterborough and the letter P was added in front of the code. With the completion of the pipe traffic the PFB group returned to general traffic but have since retained their P coding. Other varieties are FBR with different bogies and FBT with a wider decking. The standard Athearn flatwagon is a good starting point for an FB type.

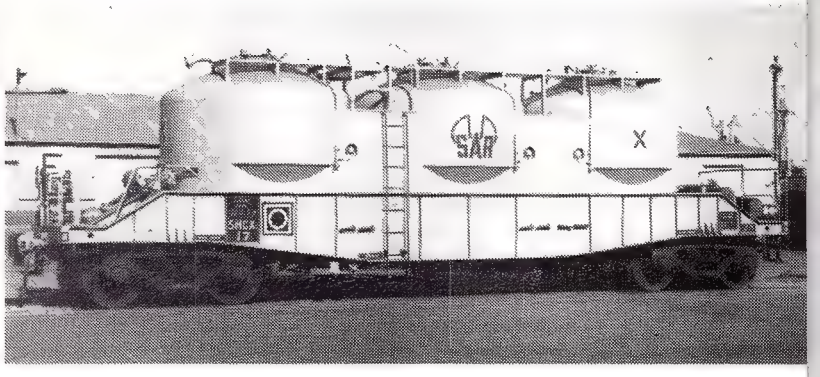
FBX class flatwagon. (AMRM Sep/Oct. 1976). This all welded flatwagon was constructed in 1968 to resemble the old FB. A conversion of a Lima flat was included in the article. As mentioned in the text several were converted to FPX by fitting bulkheads at each end. Pineboard was loaded against the fixed bulkhead and the other was moved against the load to retain it. AMRM contributors have chased the FPX for quite a long time trying to get enough info to be able to build the moving bulkhead. Just when the draughtsman finally gets one in his sights guess what Islington Workshops decides to do. Yep.. make all the bulkheads fixed so now we have more info to chase. Unfortunately railway plans of three dimensional linkages are not detailed enough for modellers because they are only used for a representation. Anyway we'll print that



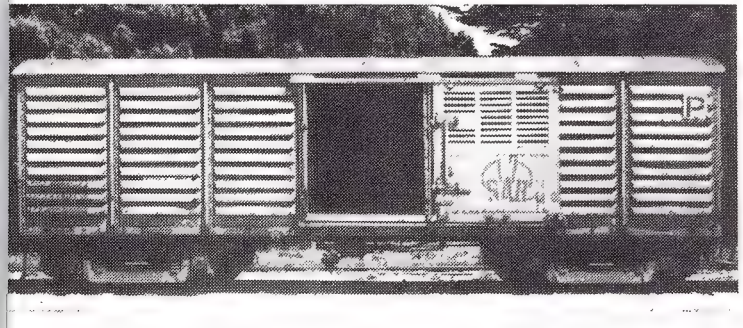
The most colourful of the RB insulated vans were those painted Celery Sue. The basic car is silver with black lettering. The background to South Australian is bright red. Celery is white with green spine to each letter and is edged in black. The background to this panel is yellow with a red border. Sue herself is green with pink legs and arms and yellow for the plume or hairdo. Quite a lady. Wagon chassis is black and bogies usually black but could also be grey.



HS class hopper and two 4400 class brakes at Mile End.



Three cell cement hopper of HCA type but suitable for bogie exchange. The S in SHCX indicates that this wagon is allocated to the standard gauge. The two cell version lack the depressed side sill and bracing.



DP3 is a large louvre D class van fitted with passenger bogies and sheet steel roof.

The pressed crosses in the doors of the older O series wagons are clearly seen in this photo of O 40.

wagon eventually. Another possible conversion is the SFBX which is several feet shorter and has a side mounted brake wheel instead of end mounted brake lever. These wagons were built to carry rails for construction trains on the Port Pirie to Broken Hill standardisation project and a lever would have been damaged by the rails. Some SFBX are now in semi permanent pairs for Whyalla to W.A. long rail traffic.

OC class open wagon. (AMRM Jan/Feb. 1976). As mentioned in the article the pyrites traffic that these wagons hauled has ended and they have lost their yellow paintwork and black lettering for standard grey. For a while they used to haul pyritic sludge to Victoria then later to haul salt from Whyalla to Port Adelaide but now are used as doorless open wagons in general traffic.

FCS flat wagon. Article awaiting publication. Photos of these short bogie flats were included in the container flat wagons of the SAR article Sep/Oct. 1978 AMRM. Contrary to the note which was hurriedly added to that article not all of the FCS were withdrawn but about six remain with some being converted to other uses. When modelling a wagon such as this which lacks a centre sill it is essential to build some weight into the floor rather than rely on a load you place upon it.

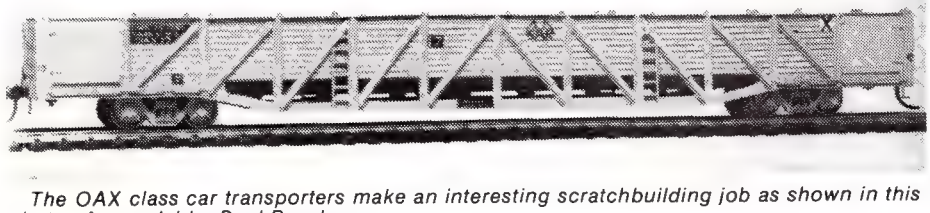
O series open wagons. This is another Webb era wagon that has seen several conversions over the years. The basic O class has distinctive crossed depressions in each door and outward pressings on each end for strengthening. They usually ride on archbar bogies whilst the OS have bettendorf or similar to allow higher speeds. The OX is modified further to suit bogie exchange traffic. All these are grey however colour was added to the doors — yellow denoted suitable for grain then the door seals were improved and red replaced the yellow to show they could carry bulk products like superphosphate. OBR has recently been introduced to denote wagons which have roller bearing bogies. A second variety of OB were built in the 1950s and these have welded bodies with horizontal ridges on the doors. Modellers who want O type quickly often use Roundhouse or Athearn 40ft. gondolas, score grooves in the doors then paint them to suit. A large tarpaulin covers most of the wagon and at a glance it will pass for SAR.

HCA two or three dome hoppers. The Airfix Prestwin hopper is often used as the basis for the two cell type and it gives a reasonable impression of the real thing. To get closer you need to scatchbuild the damn thing because the Prestwin tank is far too shallow on the sides and the top is not coned high enough. It would make a close model of the VR's four wheeled flour and cement hoppers. The HCA three cell originally had orange tanks and Readymix emblem.

C and CS class cattle vans. (AMRM Sep/Oct 1971). The information was correct but unfortunately the plan was printed too small so they tried again in Sep/Oct. 1972. The 36ft. chassis grew from 33ft. to 34ft so approach the plans with caution. Best idea would be to pick a plan and work out an enlargement ratio then use a calculator to obtain the correct size model. Another method would be to take the plan to a commercial printer who can enlarge originals.

RB class insulated van. These wooden body vans have a vague similarity to some older American types but the curved roof sets them apart. Both Northwestern Models and more recently BJ models have produced wooden kits for this type of van. Some variations are of interest as RX are suitable for bogie exchange and are used to haul celery to the Sydney markets. RBP have been adapted to trail Bluebird railcars and two were painted in a matching blue and silver colourscheme. Earlier there were several RRP class painted green and yellow to match the passenger cars of the period. The basic colour has always been SILVER not grey as I have often seen on interstate layouts. The most colourful of all were five that had advertising on their sides for 'Celery Sue says buy South Australian Celery' but unfortunately the cost of the repainting of the lettering saw them all revert to plain silver.

ON class narrow gauge ore wagon. Most of the ore leaving Broken Hill did so in ON wagons owned either by SAR or the Silverton Tramway Co. which operated the section from Broken Hill to the State Border at Burns. There were many designs and modifications but the most common feature was that in any train almost all of them looked really battered. This was the result of heavy loads and the unloading grab cranes at the wharf at Port Pirie. Story goes that the original design proved unstable when loaded so the bogie wheelbase was lengthened considerably. Yes there's a prototype for nearly everything. A plan of one type and a photo of another appear in the Dec. 1964/Jan. 1965 issue.



The OAX class car transporters make an interesting scratchbuilding job as shown in this photo of a model by Paul Brooks.

ELX open wagon. This ribbed side bogie wagon was produced as a kit by EmCe in two production runs together with the VR version which lacks the plate on each side where SAR stencilled its emblem. The floor problem of the first run was corrected for the second run and the resulting kit is, in my opinion one of the best kits produced so far in this country. An unassembled original can command high prices on the second hand market not that you see many up for sale. Unfortunately EmCe did not continue production. They are shown in adverts in the May/June 1971 issue. The SGX has similar sides with ribbed instead of plain ends.

HC, HS class hoppers. The H class has the longer body as it was originally built to carry loco coal. Nowadays it carries rock from Penrice quarries then after a thorough cleanout roof hatches are added and it can carry bulk super or wheat. The shorter bodied HS was built for the limestone traffic from Penrice Quarry to Birkenhead. The HC had the same external body shape with permanent roof covers to allow the cartage of bulk cement powder. The HCA type hoppers have released the HC and they have been converted to HS. The Lifelike model has the correct body shape for the HS however the outside bracing is not wanted.

Well that's all the conversions I know of. It also exposes some glaring gaps in the coverage of the main types of wagons. The Webb era wagons formed the backbone of the SAR rollingstock fleet being the FB, O, M, and D types. The VR purchased examples of each as additions to the SAR orders and some, particularly the open and D type louvre van lasted until quite recently. For further information the ARHS Bulletin and Railway Transportation magazines are well worth looking through. The ARHS SA Division has produced some excellent books on local prototype and the early books on the 500 and 700 class steam engines have been updated, improved and reissued. The Mile End Railway Museum book of exhibits has a photo and details of each. The SAR published an illustrated booklet of its engines and some rollingstock types at a cost of $1.00 a few years ago.

SAR Scenic Effects

If you take the ultimate step and decide to go totally SAR in your modelling you will need to consider the scenic arrangement of your layout because as you'd probably expect by now South Australia has its own distinctive look compared to other states. Unfortunately very little has appeared in the model press to give you some help. I recommend you have a look at Ralph Holden's workmanship in scale 1n 3½ as shown in AMRM of Sep/Oct. 1967 and especially Jan/Feb. 1972 which, although narrow gauge and a large scale is definately South Australian. Some photos of Victor Harbor are included in an article in the May/June 1968 issue.

No stations have been included in AMRM however some other detail items have, so here is a brief listing. Coal towers and stages seem popular as the 15 ton wooden type is in March/April 1970, the 45 ton steel type is in March/April 1978 and Oct/Nov. 1978, the Sarmod kit of the Wallaroo coaling plant is in AMRM Reviews July/August 1977 and the BJ Scale Models kit of an SAR coaling platform is reviewed in July/Aug. 1976. A small corrugated iron water tank mounted on a stand with a water column made of small diameter pipe and canvas spout is in Sep/Oct. 1970. BJ Models produced a similar item as a kit. The standard water column is almost identical to the brass model available in the shops although the price is rising rapidly. The spout is available separately in the Walthers Catalogue. Sarmod have released a large steel water tank on a piping stand.

In April 1979 Don Moyses found 859 in its new colour scheme at Port Augusta. The body is ANR engine red with silver waistband and yellow logo. The bogies are black. Repaints since then have silver bogies and the cab side numbers are in different positions.

Most readers would by now have seen advertising and the review for an SAR goods shed of the stone wall and galvanised roof variety. Builds into an excellent model as you can see in the Sep/Oct. 1978 issue. BJ produce a small platform shelter of a type used on island platforms and at unattended stations. Gem make a white metal kit of a yard crane which looks really SARish when the gear wheel is attacked with a file and drill to leave the spokes exposed. These cranes are mounted either on platforms or on a separate base made from concrete or rock fill in a circle of sleepers. Alexander make a stiff leg derrick crane which is fairly close to the 3 ton wooden style at Yacka and Roberstown but it is more familiar in Victoria.

Sarmod produce painted castings of the train control phone boxes which are used at trackside between stations and also of the relay boxes that are a alongside track signals. Another American model of use to us is the switch stand which is operated by turning a lever horizontally and at the same time a lamp and target arm is turned. Several types are available according to Walthers. 'Cheese knobs' or 'ground throws' are also of use and are painted white. The Penfield signal cabin (AMRM Jun/July 1976) is probably the smallest on the broadgauge system and was due to be demolished years ago but still remains in service because of delays in starting the standardisation of the Port Pirie line. As a general rule the older signal boxes have a very English look about them and many have a brick foundation with wooden building forming first floor. Trackwork has a GWR influence to it possibly because in the early days Brunel was an advisor.

Two other typically SAR items worth considering are that there are practically no wooden trestle bridges and until recent years all steel bridges, turntables and cranes were painted a red colour. New bridges now are steel-grey in colour.

Signalling on the SAR has the usual assortment of upper quadrant semaphore arms but their use differs from what we as modellers expect. They do NOT tell the crew which track the train is going onto but instead tell them what speed to travel at. Instead of home and distant signals there are absolute and permissive and this is indicated by the shape of the arm and by a red light either directly under the signal indication or off to the right of it. Refer to the detailed series of articles on the signalling used in each state being printed in AMRM.

I expect that this listing is not complete however it serves the purpose of reviewing what is available for someone who wishes to do something a little different. If he wants to attempt something that is a lot different from the usual he could try and model Gladstone with its overlapping trackwork in narrow standard and broad gauges. Now that's a challenge but not one that I'm ever likely to attempt. *How about you?*

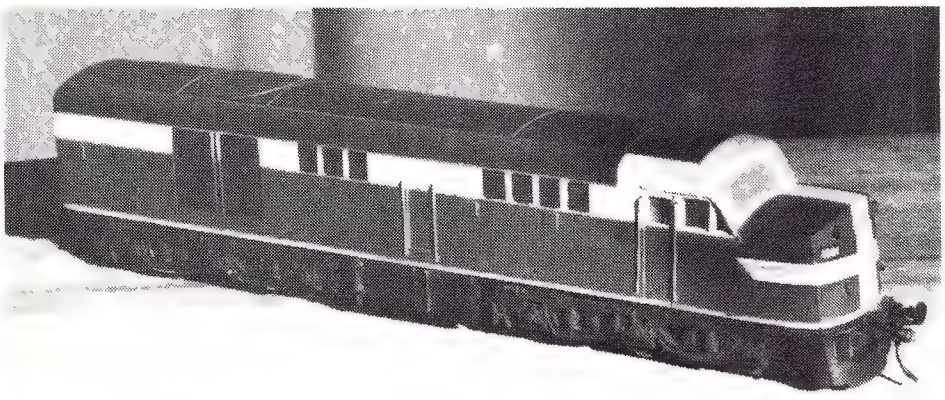
Late news Production times have meant that some interesting happenings could not be incorporated in this series. Two 900 class have been scrapped. Orange and brown 703 has left Peterborough and joined its red brethren at Mile End with more to follow. 858, 865 and fifty flat wagons converted from O type wagons arrived at Bell Bay in Tasmania aboard M.V. Townsville Trader on 12/1/1980. Two Tasmanian brakevans are fitted with Westinghouse Brake equipment and after some fittings are added to the flats the whole lot will enter service as two complete log trains. 866 has left Gladstone for Tasmania in March so the Wilmington line is without Alco power. Two NSU class, number 56 and 58 were transferred from Alice Springs but they didn't enjoy working over the hills to Wilmington and in early April NT76 arrived at Gladstone. No further runs of VR C class into SA have been reported so that the eagerly awaited through running had still not commenced by early April. Many reasons including different cab fittings.

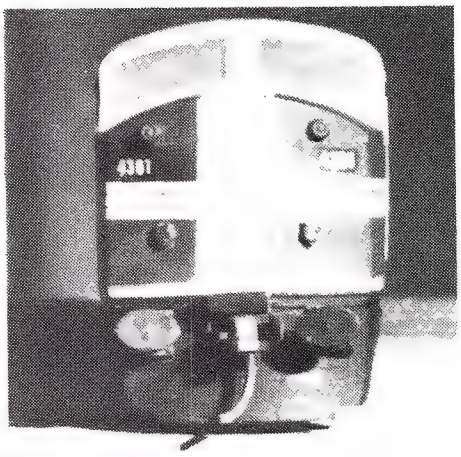
The first of the 2000/2100 type suburban railcars which were photographed by a reader during their delivery run through NSW and included in last issue are now in regular service. When the whole fleet are in service it is possible that there will be an excess of the 300 class 'Red Hens'.

The VR has offered to purchase some for a Melbourne and Ballarat line service. Railcar 300 has been withdrawn from service because it was found to contain blue asbestos lining which is the subject of Union anxiety. A decision on the car's future is yet to be made. It is the only railcar with asbestos lining.

Railcar 403 has been painted with a white body and black chassis, bogies and roof and decorated as a rolling advert for the 1980 Festival of Arts. No longer a Redhen it is now called the 'Seagull'.

This series is now concluded





4301 IN HO SCALE

Stephen Ottaway describes his method of building a 43 class from a popular Lima model.

There are two models which can be converted to the 43 class by this method — the Lima S class and the Lima 44 class.

Note:

Before starting to make a model, study the plan and photographs and compare to the 44 class or most of this will be meaningless. Remember that it is much easier to make something look correct than to try and make it dead accurate when kitbashing, hence compromises have to be made.

Materials:

1. Lima S class or 44 class.
2. Styrene sheet of variable sizes.
3. Slaters microstrip.
4. Plastibond or alternative.

Tools:

The tools used include a sharp knife small files, fine sandpaper or similar, and a razor saw.

Construction:

The main differences between the 43 class and the Lima S/44 class are:

1. Front window shape.
2. Shape of the No.1 end.
3. Side doors and vents.
4. No. 2 end.
5. Roof detail.
6. Minor differences in bogies and fuel tank.

File off all side detail and fill the vents etc. with Plastibond, then smooth off with fine sandpaper. If using wet and dry paper, it is best used dry, as the water tends to separate the plastibond from the plastic.

Front Windows:

The front windows of the 43 are at a steeper angle than the windows of the 44. The line of the roof also finishes more abruptly, giving a peak rather than the rounded area of the 44.

Start by removing all the paint in this area, and drill a few holes for the plastibond to anchor to. Fill with plastibond and when set, file to shape. The nose top in front of the windows must be lowered to the sides by file. (Diagram 1). The top and bottom corners are filed down to give the windows a more pronounced droop. The centre of the windows is also filed down so that the windows are in a flatter plane. (Diagram 2).

Re-glaze the windows with the clear plastic from the original, which is cut to the correct size and glued in with superglue. It does not matter if the windows are oversize, as the joints can be hidden by filling and a coat of paint.

Sides:

The main difference between the S and the 44 arises in the side doors and windows.

If using the 44, the side doors must be moved forwards and their windows enlarged. This is easiest done with a razor saw and a sharp knife. The side windows in front of the door are correct.

If using the S class, the doors are in the correct position, but they must be extended down. The side windows, however require modification. The corners must be made more angular, and a piece of strip must also be added to represent the quarter windows.

The small square vents, the centre door on the right hand side, and the large radiator grilles each have to be recessed .010" to the sides proper. This is best achieved by cutting out all relative openings to the full general rectangular shape they represent. They are then infilled to an outside depth of .010" and divided into their smaller sizes by strips of .010" styrene (Diagram 3).

The radiators are best done with styrene scribed lightly in a grid pattern with the edges being .010". Two thin strips are glued down the middle. Fill all joints with Plastibond and smooth off.

No.1 End:

Cut off the front face of the 44 and glue a piece of .060" between the two sides. This acts as a spacer.

The front of the nose and cowcatcher are made by cutting segment shaped curved formers from .020" with 0.010" wrapped over these (Diagram 4). A piece of .020" is cut to the same size as the headlight and glued to the back of the .010". This will act as a mould for Plastibond after the nose section is glued in place.

The top of the nose is filled with Plastibond and filed to the correct profile. Fill all the joints and smooth off. The .010" across the nose *at headlight level* has to be removed, to give a "step". Glue a piece of clear plastic into the hole left by the headlight former.

The cowcatcher sides are formed from styrene and Plastibond.

A front access hatch is scribed into the front and a hole is cut for the coupler. The marker lights are cut from the 44 as are the M.U. sockets. A square of .060" is glued above the coupler, and two thin strips are glued on both sides of this.

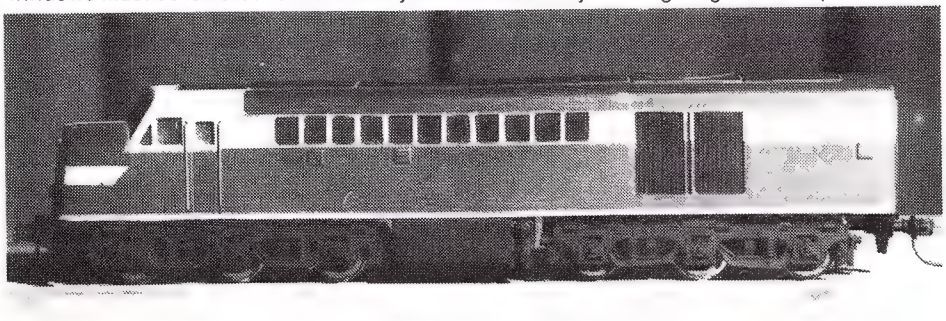
The buffers are cut off the 44 and glued on with oval buffers to replace the buffing plate. These are either cut down ERG buffers, or scratched, which look a lot better.

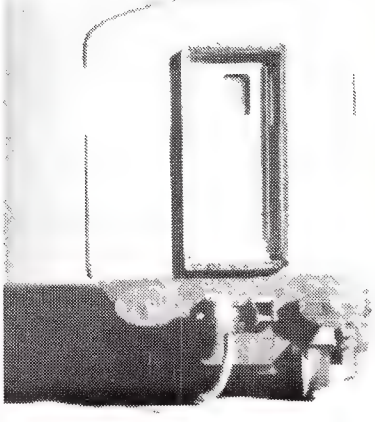
No. 2 end:

The rear door from the Lima model is utilised. Cut the whole rear end off where it joins the sides (at the mould seam) and trim it so that it will fit inside the body. Cut a notch along the edge of the flat section on either side of the door to allow a piece of .020" styrene to sit flush (Diagram 5). Cut a window on one side, and put a piece of clear plastic behind it. Fill gaps with plastibond and file smooth. Add buffers to a piece of .020" styrene and cut a hole for the coupler, and glue below the door.

Roof:

The difference lies in the location of access hatches, dynamic braking fan and exhaust vent. The roof profile is not correct, but this is





one of the compromises which have to be made.

After comparison with the plan, file off all the inapplicable detail.

The exhaust and fan must be cut out and repositioned. A razor saw is useful for this. The fan on the 43 is mounted on a raised section, which marks the cut lines on the 44.

Hatches are cut from .020" which is bent to the correct shape and glued in the correct position. The gap in the long hatch of the 44 is made by cutting two edges with a razor saw. Remove as much material as possible with a knife, then smooth off with the edge of a file.

The exhaust and fan are glued in position and all gaps filled with plastibond and smoothed off.

Chassis:

The overall length of the chassis may have to be shortened in order to fit the modified body. A hole is cut in the front to allow the chassis to fit over the coupler.

Fill detail of the fuel tank with Plastibond, and add a small piece of ladder under the door.

The sideframes have pieces of microstrip glued to the equaliser bars to give them the channel appearance characteristic of the 43 bogies.

Painting and Lining:

The model is painted with a coat of Tuscan Red. This is a mixture of Bergs Tuscan Red and Airfix Brick Red (M1).

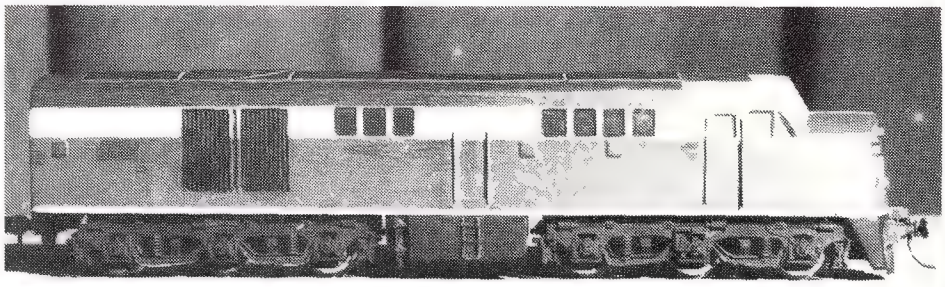
The yellow is humbrol M20 while the whiskers are transfers by MnJ.

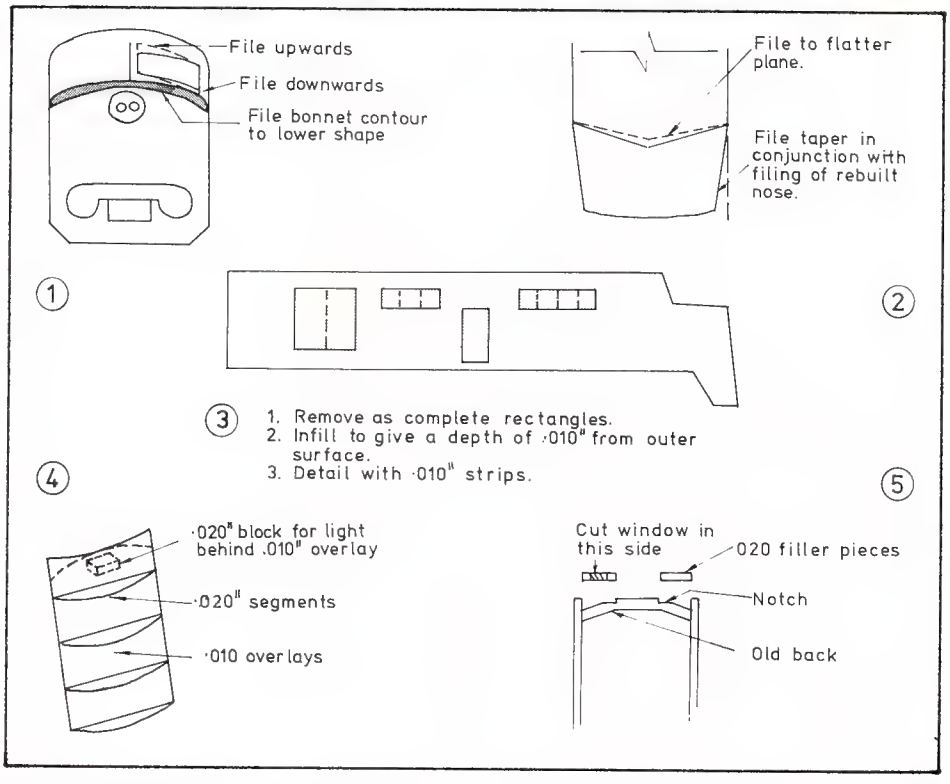
Vents and underframe are painted matt black. The number boxes are also matt black using a mask from sticky tape.

The red lining is done using a draughtsmans pen and Testors Signal Red.

Add numbers and give the model a coat of Testors dullcote.

The model is not fully completed as yet, with small detail such as grab irons and a rear ladder to add when the mood strikes me.





THE 43 CLASS *Continued from page 31*

The 43 class was not withdrawn overnight ... but as the units failed with a major defect. 4301 was followed by 4302 and 4305 in 1976, then by 4303 and 4304 in 1977. Surprisingly, at this late stage, the embargo on the 43s working in multiple with other units as second locomitive and marshalled No.2 end leading, seems to have been lifted, as it became more common during the latter part of 1977 to find a 43 marshalled in this method. Although during the latter part of 1977 4306 was plagued by multitudinous failures, the Mechanical Branch persevered with the unit, even when a main generator failed 4303 was found to be defective, but another spare was located at Delec and the unit returned to service in mid-March. But for how long can the unit remain? The P.T.C. has advised the New South Wales Rail Transport Museum that the unit would be in service for twelve months — 4306 has been promised to the Museum as a source of spare parts to enable vintage d/e 4001, the first main line unit with the NSWGR, to be restored to operational condition.

4301 and 4302 were despatched as scrap from Chullora workshops to Simsmetal Ltd., on 7/8/75 and 26/11/76 respectively, while the shell of 4305, stripped of all useable parts, was cut up at Broadmeadow by the Company commencing on 3/1/78. 4304 has also had parts removed and as at March 1978 was awaiting final disposal. 4303, second-last of the class to be withdrawn (in November 1977) was removed to Cardiff Workshops in January 1978 for stripping and recovery of re-useable parts.

Excursion Workings:

Limited use of 43 class units has been made on excursion workings — the N.S.W. Rail Transport Museum has utilised members of the class on at least four occasions, whilst the then Lithgow Switchback Railway Co-Op. Ltd. utilised a 43 on a second division of a beach excursion to Kiama in November 1973, the engine returning with the first division.

Anecdotes Concerning 43s:

A couple of stories come to mind of the 43 class ... like the driver who, just after dieselisation of the South Coast Daylight Express (before the days of the Budds) commented that he preferred diesels as he didn't have to turn them on a manual turntable — only to be given a 43 on his next trip to Nowra (quite by accident of course!?). More recently, there was the instance when a 43 worked the Gold Coast MotoRail into Sydney Terminal, No.2 end first, assisting a 46 class electric. It was on 31/5/77 when the double 44s on the up MotoRail both failed — one being detached at Gosford, whilst the second failed in the section to Hawkesbury River. The train was rescued by a 46 class, but was over-load for the electric up the Cowan Bank, and the nearest assistance was in the guise of 4303 standing at Hawkesbury River on a down freight. Thus the 43 was detached and marshalled behind the 46, No.2 end leading of course, and assisted as such through to Sydney Terminal.

passenger and freight services on the Main South, although not the interstate passenger services, basically because of their inability to maintain the running times with their lower horsepower. For this reason, Sydney Engine Control often rostered any of the units in the Sydney area to services such as the North Coast Daylight Express or the North Parcels train rather than to freight services where loads may have to be reduced so as to be within the 43 class limitations. The down Southern Highlands express on Saturday afternoons was another train to occasionally see a 43 class.

Initially, the 43s were fitted with "simple" speedometers, but over the years, 4302, 4303, 4305 and 4306 were fitted with the standard Hasler equipment to record speed, etc., on paper. 4301 & 4304 were not fitted and so it was not possible to check at a later stage whether a crew had exceeded speed limits over sections of track.

The Final Years:

Following the formation of the P.T.C. from the previous Department of Railways, a policy of removal of non-standard motive power was implemented, resulting in the phasing out of such units as the 79 class Sydney Yard shunters (the 73s are now the standard shunting units) together with the experimental 7100 & 7201. When class leader 4301 was stopped for general overhaul in August 1974,. it lingered at Chullora Workshops for many months until in April 1975 it was decided that the unit should be written off. Although, according to the Commonwealth Engineering Co., Australian agents for Alco equipment, spare parts were available for the Alco 244 engine, the fact remained that all other Alco-powered units with the P.T.C. were fitted with 251 engines and accordingly, apart from their operational problems and lower horsepower compared with the majority of other main line units, the 43s were thus non-standard.

CONFESSIONS OF A LATE NIGHT DRAUGHTSMAN

by R. Johnson (with apologies to Timothy Lea)

Do you enjoy reading the articles in this magazine? Good Quality? It should be! Thousands of manhours are spent to produce it — time spent with no recompense except the satisfaction of knowing another issue has been 'put to bed'.

On previous occasions the editor has appealed for volunteers to contribute articles and now, as a regular contributor to the 'Prototype Plan' page, I'm asking if you have ever considered drawing for this magazine. I'm hoping this article will point out some of the main pitfalls into which the new draughtsman can stumble. This article is based on my own experiences and, by mentioning these pitfalls, I hope to persuade you to 'have a go, mate'.

You don't need vast drawing experience or great knowledge of railways. Any person having completed a technical drawing course (taught in secondary school in my day) will have sufficient knowledge to draw prototype equipment. Let me point out my own limitations when I began working for the magazine. Until 1972, railways held little interest for me. Trains were the dirtiest, slowest mode of transport I ever had to endure. After a two year sojourn in WA, I arrived back in NSW to find — nothing. Steam had completely disappeared and it was this disappearance which awoke my interest. I knew the difference between first and second class, and smoking and non-smoking but only because they were labelled. Furthermore, I had absolutely no knowledge of railway terminology or methods of construction. Yet here I am, four years later, with sufficient knowledge and expertise to be able to reasonably detail a plan — with only the aid of a photograph taken with a Kodibrownak from a distance of two miles. (A gross exaggeration, Ed?)

In my opinion your first attempt should be a small building. The reason for this is that your first attempt at gathering measurements will not be successful and several trips to the site will be necessary before you have a completed drawing. My first plan took some six months to complete. Now I can get sufficient dimensions in two hours, but I still return to the site to clear up any queries or seemingly inaccurate measurements.

So, for starters,

Lesson 1:

Choose an item which will be able to be visited and measured on several occasions. Unfortunately, the only locos or rolling stock in this category belong to the museums or preservation groups.

The next problem is scale — this is the enlargement or reduction of the item for drawing purposes. When drawing my first wagon I was so worried about getting every detail that I used a scale of 1 inch =1ft. This, in itself, wasn't too bad, although it created problems when the time came to reduce the plan to 3.5mm = 1ft scale used in this magazine. Simple maths show that the drawing needed to be reduced about seven times. One limitation of the offset printing process used to print this magazine is the inability to accurately reproduce a line of less than .004 inch wide (about 0.1mm). Thus, for my drawing, I should have used a 0.8mm wide nib for the thin lines, but, to get total accuracy, I used a 0.2mm nib. On reduction these lines disappeared.

Lesson 2:

Select a scale which gives the maximum detail without creating a drawing which is too large (maximum allowable = the open magazine page size x factor of enlargement above 3.5mm = 1ft). The magazine successfully uses a scale of 7mm = 1ft. The "General" brand HO steel rule can be used for measuring in 7mm = 1ft scale as, in the new scale, each 1 inch graduation equals ½ inch. When an item is very small, the scale of 14mm = 1ft. is used. In this scale the 1 inch increment of th HO rule is equal to ¼ inch.

Whenever possible, try to draw something you would like to have on your own layout. This gives incentive to get the drawing correct. Unfortunately this is not always possible when working for the magazine. There are occasions when the editor requires drawings to complete another's projects. By helping other people to finalize their articles, one makes a major contribution to the continuity of the magazine.

Lesson 3:

The fledgling draughtsman should restrict his initial efforts to items in which he has an interest.

There are often problems associated with drawing typical examples of a loco or wagon class. This is a direct result of the railway's methods of material procurement and modification of stock at numerous workshops. The varying processes of repairs causes each piece of rolling stock to be unique; particularly when the item is old. The new draughtsmen cannot be expected to be expert at finding typical examples; so the magazine editor has on call a number of modellers who can be contacted for prototype information.

Let me mention two examples of the sorts of problems which occur. Some time ago, I had an argument about which type of bogie is used on the VR 'S' class. As it turned out we were both right — there are two types of bogie. The SAR also uses two different types of bogies on their 'Red Hens', and at times, both types can be found on the same vehicle. It is easy to see how mistakes can be made.

To understand railway constructional methods, one must go to the prototype. Most rolling stock have similar basic types of construction, although each State has their own varying methods. Buildings usually follow normal building industry methods; only the detailing varies. There have been significant changes in building methods in the past 125 years of railway operations in Australia. It is a science, in itself, to become conversant with each period.

It is only possible to obtain rolling stock underframe details by getting under the vehicle and, consequently, one is in a most dangerous situation. It wouldn't be the first time I've had to bail out from under a wagon parked in an apparently unused siding. Similar problems exist when one attempts to obtain roof details. Overhead electrical wires and wet, slippery surfaces are only two of the dangers; so beware.

Lesson 4:

Safety first has to be the motto when gathering measurements. Always ask for permission for entry and heed any cautions. In this day and age, even railway enthusiasts are being charged with trespassing.

Before the new draughtsman is able to put pen to paper he must be in possession of some pieces of equipment:

a. a drawing board
b. a Tee square with bevelled edges
c. a set square
d. a set of micronorm, tubular pens — 0.25mm, 0.35mm and 0.5mm (minimum)
e. a set of stencils — 3.5mm and 5.0mm high (minimum)
f. a pencil
g. a bottle of indian ink
h. a pencil eraser
i. an ink eraser
j. a circle template
k. a compass with tubular pen attachment. *Note:* I cannot recommend the new style Rotring micronorm pens to inexperienced draughtsmen, as the method of manufacture prevents easy removal of the nib for cleaning.

Now for some points on drawing techniques. All draughtsmen must become conversant with drawing equipment and drawing conventions. Plans for this magazine are always finished in indian ink. Tubular pens are used as line and printing pens. All lettering is done with the aid of stencils. It is necessary to practice using this equipment. One common fault is allowing ink to penetrate under the edge of a rule or circle template. This can be avoided by placing some tape on the bottom surface close to the edge of the rule or hole. Always use the tubular pens with a compass as the supplied compass ink nib is almost impossible to reset at a given thickness.

The best material for drawing paper is the plastic drafting film. This is a dimensionally stable material (which simply means it doesn't stretch with changes of humidity). Unfortunately it is also the most expensive. As a compromise tracing paper is the most frequently used. If ink is smudged or spilt on tracing paper, a safety razor blade can be used to scratch it off: thus giving rise to the origins of the old saying "scratching for a living". Roughen the surface with an ink eraser before redrawing. Drafting film is easily cleaned with the aid of a special ink eraser or a damp cloth. Allow plenty of time to dry.

Drawing conventions are not so easy to define. The setting out of a drawing doesn't vary — just the information recorded on it. This information must be included in such a manner so all modellers, experienced or otherwise, can understand it. Convention demands:

a. the vehicle be drawn in third angle projection;
b. the vehicle's front should face the left hand edge of the page;
c. each face (side, end, top) should have a separate drawing, however there are exceptions (see below); and
d. underframes are drawn upside down — the way you see them when you measure them.

The exceptions to (c) occur when a side or end is similar to it's opposite. For ends, draw the one with the shunter's step and handbrake, and cover the other with a photograph. When a wagon has similar details diagonally opposite, both sides are identical or similar, and a note to that effect will suffice. If both sides have similar details directly opposite, then the parts have been built handed. Although a note could be included, it is better to draw both sides for clarity.

Now for the vexing problem — what to leave off? Recently, I was mildly criticized for leaving windscreen wipers off all but the front view of a diesel. The criticism was justified

but these omissions were logical as the front view is the only view where the size, shape and location is clearly indicated. At the same time, we must guard against oversimplifying a drawing. This problem occurred in the production of some model F7 locomotive bogies. The shape of these is incorrect because the manufacturer produced his moulds from a colour scheme diagram; the original draughtsman never intended his diagram to be used as a scale plan. Also beware when scaling from a copy of a drawing; the paper stretches in the copying process.

Avoid cluttering a drawing. Rivets, while giving prototype character, should be left off, although there are times when rivets are needed to clarify a point — a tender coal bin shape is one example. Bogie sideframes are timeconsuming to detail. If a wagon is known to be fitted with different types of bogies, I only chain dot the wheel positions (unless requested otherwise by the editor). When the sideframe is detailed, only one is done. Similarily, with steam locomotives, I draw the left hand side with fully detailed rods and valve gear, but not the right.

Lesson 5:

Be prepared to draw too much rather than too little. If necessary, add partial views to clarify situations where the size, shape or location is not clear.

Everyone has their own ideas on gathering information. It is the same when applied to measuring any object. If the object is very small it can be placed on a piece of paper and its outline traced. This is a rough, but sometimes handy method of recording sizes. On larger items a steel tape is used. Three basic dimensions are absolutely necessary — length, breadth and height. If there are other parts to be detailed their position can be determined by a series of running dimensions at each tie-down point centreline. Thus the dimensions taken might read:

0, 2'7⅝", 5'3¼", 7'10⅞", etc.

When drawing, round off the drawn measurement to the nearest ½", but never round off the written dimension; so the modified measurements would be:

0, 2'7½", 5'3", 7'11", etc.

This ensures that there is a minimum of discrepancy positioning every tie-down point.

Lesson 6:

Never disregard the less-than-inch increment. Drawings should be as accurate as the dimensions but make allowances when lines are very close.

Please note that, throughout this article, where I have referred to rolling stock, this also includes locomotives and coaches. Fortunately more information is generally available about locomotive internal, transmission and motion details although most drawings are in 1st angle projection. Buildings have figured very little as a lot of the items used are now standardized throughout the building industry. Doors, for instance, are normally 6' - 6" high whether they are used in houses or lineside buildings. Sometimes measurements can be deduced by counting the number of bricks in a wall and adding an allowance for the ⅜" cement joint, but deductions of this nature are a product of practice and are best attempted when a measurement can be taken for comparison.

While I have concentrated on pure mechanical technical drawing, commercial artists are also in demand. Some English magazines are making full use of the commercial artist's talents and are using pencil sketches to illustrate articles. These sketches are very useful for detailing purposes as the drawings are three dimensional. Unfortunately I'm not qualified to expand on this subject, but I'm sure the editor would welcome any suitably qualified volunteers.

As I wrote at the beginning I hope to persuade you to attempt a drawing for the Prototype Plan page. If you have been persuaded, you couldn't do better than look at what has already been drawn, and use these as examples.

Acknowledgements:
Michele Rayward for the Five Re-types.
Paul Kidcaff & Frank & Kathy Hendriks for the necessary proof reading.

Editor's Note...If you intend preparing a plan for printing in AMRM we would prefer you to ask first whether it would be suitable. In recent years we have received several plans of one class of diesel and three articles on how to build another diesel. Our problem is then to choose one in preference to another. Unfortunately this means that a contributor has spent a lot of valuable time preparing a plan/article that is not used. Trying to combine two articles can be difficult while combining two similar plans is close to impractical.

After reading and then proof reading this article I was still left with the nagging question 'Who is Timothy Lea?' Wandering through a book shop recently (looking for railway books of course) my gaze fell upon some bosomy wenches on the cover of a paper back titled 'Confessions of a taxi driver' and behold there was a whole series of these books. One guess who the author was. Who said our draughtsman had a one track mind.

4-WHEEL CONTAINER WAGONS ON THE V.R. *Continued from page 25.*

security, and protection against dust and weather".

All but one of the illustrations in the 1966 booklet showed the LCL containers on 4-wheel wagons such as KC's. These "non-ISO" containers are being dealt with in detail in a series of articles prepared by another Victorian contributor.

KC's are numbered 87 to 123, and are painted the same colours as KMQ's.

KCC, KMC and KPC Wagons

Although we have not presented drawings of these wagons, they are worth a mention. Like the wagons discussed so far, they are all specific-purpose LCL container wagons, as follows:

KCC's were converted from IA (or similar) 17-ton capacity wagons, and are fitted for cartage of 2 bulk cement containers. They were used between the Fyansford (Geelong) cement factory and Cudgewa in N/E Victoria. 'KCC' implies KC function, the first C specifying cement traffic.

KMC's were converted from KC's for cartage of tallow containers. Although originally seen carrying three tallow containers, they now carry two. KMC's are numbered 1 to 3.

KPC's were converted from short-wheelbase IA's, for cartage of 1 'Prestige' (the fabric manufacturers) private-owner container. The P denotes 'Prestige' containers, on a wagon having the KC function. These are used seasonally in Melbourne — Ararat traffic. KPC's are numbered from 501 to 505.

Wagons in these three "specific purpose" groups are painted the same colours as KMQ's.

Operation

There are several important points: Specific purpose wagons such as KMC's and KPC's are usually operated between specific points. For example, KMC's in tallow traffic are operated from certain sidings in Melbourne yard. These sidings are clearly marked out, for the benefit of consignors. Likewise, the KCC's began each revenue run from a siding near Geelong. Such operations are well worth simulation on model systems. You have the challenge of specific location — perhaps a short spur off a main line, so you just can't leave the wagon in a station yard! Some customers require operation to a definite "day and time-of-day" schedule, and adding this concept to model system operation adds somewhat to the excitement. In general, container wagons must be run to and from locations having container-handling facilities, such as gantry cranes. Such facilities are provided in a special area in large railway yards, and at the private sidings of major container shippers. Some smaller railway yards also have them. Fork-Lift trucks are often used for servicing end-loading containers. Such a container on a 4-wheel wagon leaves no room to drive the fork-lift onto the wagon from an adjacent platform.

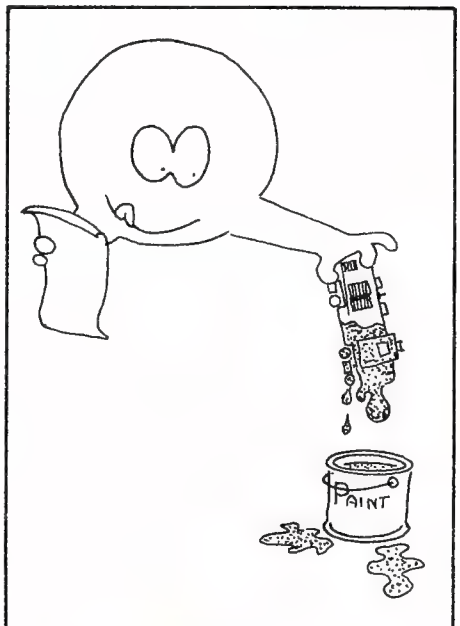
The VR solved this problem by providing the 'KL' wagon. This wagon is marshalled at the business end of the container, and its flat steel deck provides for the fork-lift to drive from the platform to the container.

KL's were cut down from IA's, and numbered from 1 to 20. At November 1978 there were 4 left in service.

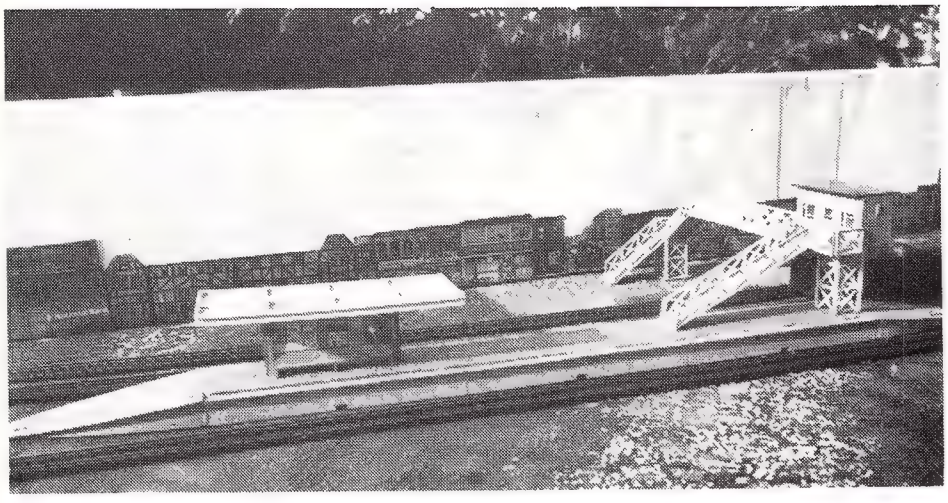
N.S.W. VEHICLE COUNTDOWN — 15

In 1968, the N.S.W.G.R. had 47 '3480' series suburban electric control motor cars in traffic. By 1977, only 2 vehicles of this type remained on the N.S.W.P.T.C. register.

Paul Rogers



Apply a light coat of paint to highlight weathered areas on the model.



THREE CONVERSIONS

THE EXHIBITION SPECIAL

Wanting a cheap, simple train to run at fetes, I looked in my spare parts box and found; 1 Lima clockwork body; 1 Jouef 4 wheel diesel motor chassis; 1 Airfix brake van body; 3 Triang 4 wheel coaches. I found that the body fitted one way on the chassis which only runs one way anyway. I patched up the body and painted it flat black.

I cut one window strut out of each side of one carriage and fitted the guards lookout from the brake van, thus making a passenger guards van. All 3 carriages were painted Hull Red and when dry rubbed over with an ink rubber to weather them. (Yes, it works!)

I added Mn'J QR decals on each carriage which read; "SMOKING" — "SECOND" and a number was added. On the guard's van was added "GUARD".

The train has run at 3 fetes and the only trouble found is how to explain to pre-schoolers that I can't turn the engine, "Which is going the wrong way".

Ralph Simpson

STATION CONVERSION

With the help of an Airfix overbridge a Triang/Hornby station became a Brisbane surburban station.

The station at Corinda has a rock wall past one track and this is the reason that the footbridge stops at the island. By using 2 AIRFIX bridges, the footbridge would cover 2 platforms and another walk-down.

An outline of construction is as follows:-

1. Cut a piece of balsa to fit between the platform seat top and the awning roof.
2. Cut a plastic piece to the size of the ticket office plus the width of the footbridge.
3. Make the ticket office footing from the square upright sections.
4. Make up the bridge stairs. Juggle the pieces to fit.
5. Cement the ticket office to its base and then to the upright.
6. Cut the railings to fit around the platform stairs which are glued to the footbridge.
7. Cement the rails to the footbridge and then the footbridge is cemented to the far steps and upright and the ticket office.
8. Paint the railings white and the top rail either red, brown or light green as are Brisbane stations.
9. Cut out the cross braces on the rails and put in a bar if you want to use the correct rails. I decided that effort would not change the overall effect so I didn't.

Sam Binnington

The background shops are made from pictures in magazines and glued to a cardboard backframe.

A WORLD WAR 2 ARMY GUN TRAIN

To defend some parts of Europe, Germany and Russia made up Gun Trains which used anti-aircraft guns and tank turrets mounted on railway wagons. This train is based on photos and does not represent any particular one although the wagons are models of actual ones.

The engine is an 0-4-0 Hornby covered with 10 thou. plastic to represent armour plating which army engines were covered with to protect their boilers and crews.

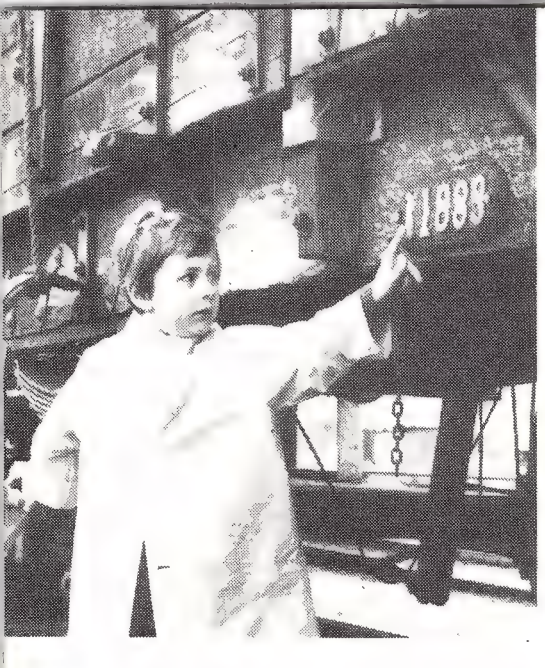
The three 4 wheel vans and the 4 wheel flat cars were chosen because they matched the photos. On one was mounted 2 anti-aircraft guns; on another 2 armoured car guns and turrets, and on the flat car a turret and gun from a "Crusader" tank.

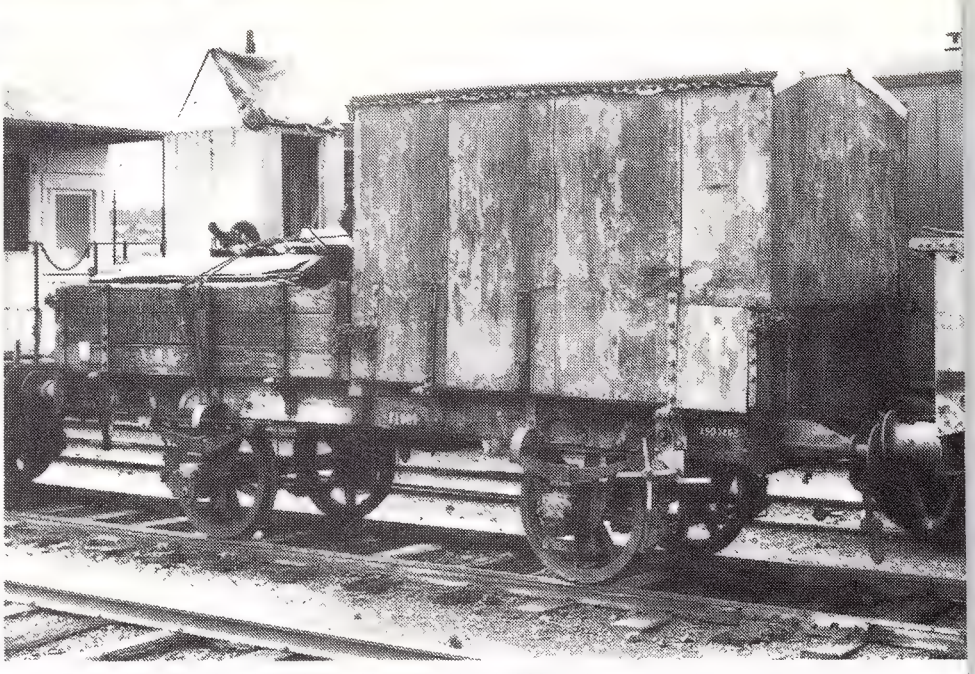
The guards' van had square pieces added to the sides for lookouts and the end wall cut to allow a machine gun to be mounted inside with its barrel pointing out through the hole.

The paint job is a mixture of dark green, brown and yellow in a random streaked pattern.

The only problem with this train is I now have to build an army workshop fed by a siding to use up all pieces of the "Airfix" army kits left.

Nev Witty
Photos: W. Budd.





Two pictures of old 4-wheel 'A' truck, No. 11889 as it appeared early in 1979, but photographed by the author some years earlier. Note the last-century cast wheels beneath the vehicle, and the all-wooden frame with hook couplings.

SEEING IS BELIEVING!

by Leon Oberg

As one wanders around a railway system as big as the NSWPTC, it occasionally becomes apparent that things often taken at face value are in fact something extraordinary.

Take freight vehicle codes for instance. Being one who enjoys a little more than just a passing interest in vehicles, and their numbering system, it does not take long to find little discrepencies over what is often regarded as 'official'.

Let me cite the day recently when, walking through Goulburn's wheat yard I noticed two vehicles actually carrying the SAME road-number! Yes, the same number (No. 11889) - and sitting virtually beside one another on adjacent roads. Having seen some 'beauties' over the years, I thought this situation would take the prize and must constantly give the truck-tracers' certain nightmares.

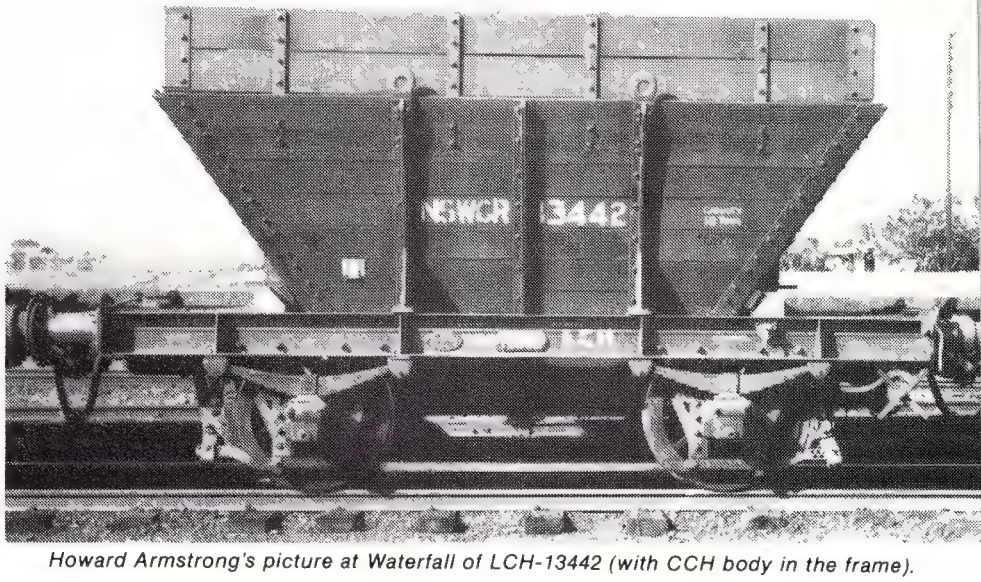
Actually, the two wagons are still operating, and one is a modern-type BKX car-carrying bogie vehicle, the other being an old 4-wheel A-class open truck. Checking through various copies of my freight wagon number listings I found that PTC books published prior to the November 1974 issue listed No. 11889 as an 'A' vehicle and editions published after that date provided for the new BKX code. But both were still operating as large as life early in 1979, the old 'A' wagon being part of a work train consist and as such has had a couple of sheds built onto it.

On another occasion a few years ago and in the same yard was bogie roofed hopper code HRH No. 29112. But on closer examination, this vehicle should not have been an HRH, but a BRH unit. The bogies gave the game away for originally these vehicles were introduced with questionable plain-bearing bogies of the type under this vehicle (pictured). In more recent years, following the arrival during the early 1960's of roller bearing HCH-class coal hoppers, a number of roofed cement hoppers were provided with similar bogies, thus coded HRH. As such, they were allowed nine extra tonnes payload (from 41 to 50 tonnes).

Then, take four-wheel coal hopper, LCH 13442 (also pictured) as another instance where codes can go wrong. Actually, LCH vehicles did not have built-up sides like the vehicle in this picture, taken at Waterfall by Howard Armstrong some years ago. The vehicle as it appears should actually be a CCH and obviously the body was exchanged with another frame during unloading somewhere. No doubt elsewhere on the system a CCH-stamped frame was running around with an LCH-type body.

And of course other little discrepencies appear from time to time, but as most readers will agree, it all goes to make this business of railway enthusiasm that little more exciting.

Roofed hopper, HRH 29112, pictured at Goulburn a few years ago, but with older BRH-type bogies beneath it. (See text). Photo by the author.



Howard Armstrong's picture at Waterfall of LCH-13442 (with CCH body in the frame).

MAIL BAG

Sir,

Re: Problems with Australian manufactured kits.

Over the last 8 years I have assembled and painted a variety of coach and wagon kits from various Australian manufacturers. I started with an MRC brand kit and made such a mess of the assembly that I dismantled the joints with a razor blade, and recommended stage by stage with backing blocks of balsa behind the joints to ensure squareness.

More generally I found that, despite their great mass, Protype white metal kits were very sturdy, with adequate assembly and painting instructions. The TRC kit had no indication of ladder position while the LLV van coupler position was so far into the body that the long but inferior operating Kadee No 7 couplers were essential. Inevitably, the coupler pocket in the end section needs filing out to take the common Kadee No 5 couplers. The screws supplied by Protype are square in cross section, giving inferior gripping power in the bogie kingpin than do the tapered cross section screws which I use.

Protype have marketed white metal bogie frames — disassembled — and these do no assemble so that the ends fit fully onto the joining beam with the wheels in place. This leads to inferior strength on assembly. Two BCW's were supplied with the roof shorter than necessary. The retailer was reluctant to chase the manufacurer to make good these items — and it was only after a personal visit to the main marketer in Sydney following a year's fruitless attempts at satisfaction that this problem was rectified. One TRC was without the roof hatch/walkway assembly.

The Friedmont/MRC range has varied in quality over the years. Not always are bogie centre spacings given (VHX, VEX, WVX), nor are scale spacings always given for four wheel vehicles. Seldom are painting details given, and now kits are appearing without any instruction sheets (GY, RY). These GY and RY kits do not have the door assemblies opposite one another! For beginners, a diagram showing the location of internal support blocks to ensure squareness of the four sides of multi-part kits. BWH kits do not have roof, hatch or walkway supplied. Decals for these kits appear spasmodically — but never are instructions given with the decals for their fitting or sealing to the body.

The underfloor kit for the Lima Aurora cars was assembled the wrong way round on the photograph in AMRM (!) but that is not the kit makers fault.

While the kit builder acquired much expertise as he devises methods to overcome the contempt of the kit maker for the modeller, this should not be necessary. The part-time nature of these makers' operations should be no excuse for failing to observe the following standards in an instruction sheet which details:

— type of bogie,
— bogie or axle centreline distances,
— diagram of side-to-end assembly where they are different (as in good brake vans).
— if the kit is plastic or similar material, a diagram of spacer and squaring blocks.
— full painting details and type of glue and solvent for same including incompatible types,

— list of parts supposed to be present,
— address for complaints re lack of correct parts, backed by satisfaction of complaints within two months of receipt.

A cynical kit maker would believe that this kind of information would make the kit's assembly idiotic as well as fool-proof. The more constructive attitude is that it will enable new recruits to confidently enter an essential part of modelling the Australian prototype.

P. J. Barry,
Yarrawonga, Vic 3730.

P.S. The latest (1979/80) PMH K class underframes need time consuming filing to fit them to the underside of Friedmont's RY/GY wagons, while previous batches have fitted with ease.

Sir,

I have been watching, with interest, the mounting criticism of Australian kits (particularly Friedmont and MRC) that has been appearing in recent issues of AMRM. My review of some N gauge kits from MRC appeared in the September/October issue and I was not complimentary of them. Since then some readers will know that I have become even stronger in my criticism.

At an exhibition in Bathurst this weekend I had a chance to talk to Jack Purcell and Ian Ballinger of Friedmont/MRC and my feelings have now mellowed a little after seeing the situation from their viewpoint. Friedmont/MRC is a spare-time business operated by Jack Purcell, Ian Ballinger and their families. The majority of the masters are made by the principals who are just average modellers like you and I. The masters are produced from plans from the PTC, and photos taken in the field. As anyone who has tried to scratchbuild a specific unit will know, plans and photos seldom agree. Therefore, it is easy to find errors in the siting of doors, windows, etc. Other errors occur on purpose, eg to eliminate big undercuts so that castings can be removed from the moulds without damage

The material used has been chosen for a number of reasons, including the fact that it is not expensive. The prices of the kits are not expensive when all the cost are taken into account and let's face it, the manufacturer is entitled to some profit, as is the retailer.

One thing that has always annoyed me about some of the castings from Friedmont/MRC is the bubbles, faults, thickness, thinness, etc and I know that is a problem that annoys others. I specifically mentioned it to Jack Purcell and he was surprised. He assumed that everyone knew that if a part was faulty the part, or kit, could be exchanged. Everyone obviously doesn't know and so that guarantee is to be printed on the labels when they are reprinted. In the meantime, anyone who has a part or a kit that has a fault should return it so that it can be replaced.

A lot of my criticism has been destructive and I regret that for our local manufacturers should be encouraged. If we don't like their product we should tell them, constructively, so that the product can be improved.

Stuart Livesey,
Bathurst, NSW 2795.

It would seem nice to accept some of Stuart's remarks but unfortunately it has not been possible to either exchange parts or return them, in the past, for the hobbyshops were unwilling to accept them back and there has been no return address on any packaging. Wouldn't it be easier to vet the kits as they are being packed by the manufacturer and any broken or defective part removed BEFORE it gets to the hobby shop? It is this aspect, the broken detail or bubbles in the castings, more than any other that has given the pre-mentioned kit a poor name. Maybe it is too late now to change policy. (Ed.)

Sir,

For the benefit of other readers I'd like to mention the bad experience I have had with an English firm, following advertisements for mail order goods.

In October, 1979 I enquired with them for some British kits and, on being advised by them that they would supply these, I sent them my order with a bank draft for 10 Pounds. I didn't hear anythng from them so I wrote in March, 1980 enquiring after my order. Result — no action or reply. I wrote again, twice, and still have received no reply. On checking with the bank I found that the bank draft was paid to them in November, 1979, so clearly they received my order. I am pursuing the matter with the UK Department of Prices and Consumer Protection, but I doubt if I will see my money again.

While there is really no way of avoiding the possibility of this kind of problem with overseas mail order shops, I'd suggest that the following points are worth observing:-

— deal only with firms who are known to have given reliable service previously;
— only forward payment in response to the firm's numbered invoice for the goods you want, and keep a copy of the invoice and all correspondence.

On a brighter note, I've always been very pleased with the efficient service provided by the Australian mail order firms, both large and small.

W. A. Miller,
Eastwood, NSW 2122.

Sir,

It seems incredible that a person can have the intentions for years before actually getting off his butt and joining the force. I refer to me and *our* magazine.

One thing I've learned in life is that the world is full of willing people — some willing to work, the rest willing to let them!

On receiving my copy of each issue of AMRM I quickly browse through and then slowly digest all that is written experiencing great pleasure and satisfaction.

I have yet to read so much factual correspondence that would surpass the Mail Bag in the May/June issue. Congratulations to each and every one whose letters appeared including the editor for his painstaking comments where appropriate. I would recommend that every recipient of that issue dig it out and re-read all these letters again and then repeat the exercise.

Phil Morrow's letter to be the first printed whether by choice or chance was the perfect opener. You blokes at AMRM do as he says "dig in there", this model railway magazine is appreciated. As Sue Hicks wrote — producing the magazine is a "labour of love". It would have to be, to be presented as it is.

Again — my feelings are like Daryl Pendlebury. Pay your seven bucks direct and be sure you don't miss out. My cheque goes the day the reminder arrives. God help you blokes if you ever forget to remind me.

The only person I can find to take to task is Bruce Lovett. Fancy going to all the trouble to impart all our feelings so very well and only congratulate "The Magnificent Seven". On checking the workers list on Page 11 I can count 33 of the perishers, not counting the 13 responsible for this issue's feature articles and some of these are mentioned 2 and 3 times.

To read the editor's comments following Graham Lowe's request for other than NSW locos was a set of bruised ribs for me. As I read Graham's letter I feel very fortunate in having so much and they (modellers in other states) had virtually nothing. You got me a beauty Allan Brown — 10 locos is not bad for outsiders

This then brings me to Bob Comerford and David Allen's articles re Friedmont/MRC kits. If it's any consolation Casula Hobbies' ad indicates the purchase of the last production of some kits. I don't knock anyone for wanting to use any manufacturer's equipment, but — Oh man!! And the price — speechless. Forget this stuff, Australian made or not. You will do much better with modified look-alike from reputable manufacturers and get performance and pleasure for your money.

With Mr Editor's permission I will set about and prepare some articles on how I came up with NSW and feel justified. A quick example is the Lima conversion featured on Page 21. This is relatively easy, a bit time-consuming and very rewarding. Much more so than Friedmont/MRC mix and match muck.

I would like to acknowledge the person responsible for that Lima conversion (Ross Huley's photo) I have the same loco awaiting the same treatment for conversion to NSW 1909.

D. J. Cotterill's letter to retailers' response to mail enquiries is very indicative of the service we can expect from retailers. Some will bend over backwards to help, others will help and others could not care less. So, like others treated in this fashion, you know where I shop.

I can take credit for converting one hobby shop keeper into having a rethink. When discussing AMRM he said he did not advertise in or support it for it was full of "backyarders". My reply was that it is the backyarders and kitbashers that are trying their pumps out to keep the upswing in model railways alive and because of them indirectly we visit his very well appointed shop. I now see him advertising occasionally.

Finally I would like to join Chris Main and urge you to keep a close eye on the production costs and don't apologise for price increases. If the advertisers continue to increase their support you can hold prices in check. When considered against overseas magazines we are a long way in front with features versus ads for our money.

Thank you for letting me share this great hobby with you all — modellers, whingers, good dealers and AMRM staff.

Frank Gogarty,
Rutherford, NSW 2320.

Sir,

I would refer to the advertisement by the Prospect Model Railway Club in the May/June issue.

Firstly, with regard to the comment on their January Open Day, "there were also some notable absentees, but we managed to carry on regardless," — we consider that such a statement is completely uncalled for and in extremely bad taste. This being a free country it is surely a matter for the individual members of our hobby as to whether or not they choose to avail themselves of the opportunity to make a visit or attend an exhibition and, if they so choose to attend, there is no Visitors' book which must be signed. My wife and I did in fact attend the Open Day in question but we were not impressed as, at the time of our visit, none of the layouts on display were operational and the rolling stock on display was not identified.

Secondly, the advertisement refers to the special

feature of the 1980 exhibition, "one of the biggest display of American Brass locos and rolling stock in Australia." Having just returned from the exhibition to say the least I was most disappointed — firstly, I personally cannot see anything in "Brass locos and rolling stock". The basis of our hobby is "model" not brass and until a brass item is painted and lettered it does not become a model, what does it really matter if the item is made of brass, white metal, plastic, wood, or what-have-you — as long as the finished product is an accurate scale model of the original in all ways and runs and pulls well. A model is defined as a small copy. I admit I've been an active Rail fan since 1937 but I have yet to see in New South Wales a gold painted garrett, 38, 36 FO Coach and etc.

I have always understood that one of the prime objects of exhibitions was to either introduce the general public to the hobby or encourage them to take a deeper look at the serious side of the hobby. How can this be achieved if the items on display are not identified. A few lines on a small card are not much but can make a lifeless model become alive e.g. this locomotive was used to haul the first fish train.

With regard to the claim about the size of the display I appreciate that size is all a matter of relativity. The largest display of American Brass Locos and Rolling Stock in this country, to my knowledge, would that on display at the model dockyard Swanston Street, Melbourne. While conceding this to be the largest collection of brass and etc. I personally do not consider it to be a collection of model locomotives and rolling stock as, only about one third of the items displayed are actual models, painted and etc. I am informed that there are in private hands several collections larger than that on display at the Exhibition but, in my opinion, it is not the size of a "collection" which counts but the quality of the individual models in it.

Neil R. Cram,
Penrith

Here! Here! We at AMRM are deeply concerned at the rather unusual comment on a paid advertisement, especially when one considers that every one who did not attend is being reprimanded for not doing so. One must also wonder if the author of the text took time to consider why the individuals to whom the comments were aimed did not attend. Maybe they were in hospital, or their family was ill, or etc etc . . . (Ed)

Sir,

I am a relative newcomer to AMRM and was thrilled to bits to read the excellent BB18¼ article. I also noted with interest comments in Mailbag re "NSW bias" and "small band of non-NSW modellers".

I feel a major reason for this apparent lack of modelling interest from the narrow gauge states at least, is that old perplexing question of scale. Does one abandon one's already large stock of HO standard gauge equipment and strike out in S, following Mr Malone's lead? As one very eager to model QR, I have (after several years of procrastination) been able to make a decision on HOn3½ and/or Sn3½.

Could AMRM offer any advice on the relative followings of the two scales and thus possible future availability of manufactured items such as narrow gauge wheelsets and bogies — or even a powered diesel bogie!

It is perhaps ironic that Australia's "break of gauge" problem (a very rich source of modelling interest!) should be paralleled in the model world by a "break of scale" problem that many potential narrow gauge modellers are unable to resolve.

Perhaps AMRM and SCMRA could provide some lead in this matter.

J. E. Marshall,
Beechmont, 4211.

Sir,

I am virtually a "beginner" in railroad modelling having only started some two years ago but enjoy this hobby very much indeed.

I have also been subscribing to your magazine for nearly 18 months and find it a very high quality magazine indeed. In this period of time I have carefully noted the contents of the various layouts presented and one that really struck me as being the best to appear in your magazine for some time is the one "The Santa Fe Down South — 1", as presented in your November/December, 1979 issues pages 13 to 16. What a pity the photos weren't in colour.

It is a shame you didn't print a diagram of the layout, for I feel the actual layout itself is just as spectacular. Maybe you could oblige us in another issue at a later date?

Unfortunately your magazine doesn't reach us in Papua New Guinea until some two months after publication. For example, your November/December 1979 issue reached me in March, 1980. Is there any chance your overseas subscribers can pay some more for Air Mail postage, as sea mail is far too slow.

Some time ago I wrote to you to see if anyone is modelling on a "Japanese" theme. Since moving to Mount Hagen from Wewak (where I first started model railroading) I have taken over a spare bedroom and started building a layout on a Japanese theme. I have two Lima "Bullet Express" trains plus five other country type from steam to diesel electric which are used in other parts of Japan. My reason for the Japanese theme is having visited Japan twice — once in 1965 for 4 months and again in 1975 for 5 weeks. I was amazed at their super speed train — the famous "Bullet Express". Having ridden on this famous train several times I was able to get some good still and movie films of the train, countryside, etc that I knew one day would come into use if I ever decided to model this famous train. Now my dreams have come true and I am now flat our assembling a typical Japanese theme (temples, lakes, mountains, etc) that will enhance the model trains I now have.

If anyone else is modelling on a Japanese theme then I would certainly like to hear from them and get their ideas, etc that could be of interest to me.

Charles Betteridge,
PO Box 93,
Mount Hagen,
Papua New Guinea.

Unfortunately, it is not always possible to obtain diagrams of layouts for, as with Bruce Block's Santa Fee layout, the trackwork is very complicated and would take countless hours to draw for publication. Unfortunately this is one of the drawbacks with a publication that relies upon volunteers.

AMRM subscriptions are processed for AMRM through Australia Post at a special bulk postage rate. This rate does not include Air Mail postage. (Ed.)

Sir,

re query by David Allen of Lilli Pilli concerning N.S.W.G.R. HFL cars, May/June issue p.38

First, let it be said that there were three versions of the second class centre aisle HFL. The original HFLs formed the terminal cars of the CUB sets which consisted of rebuilt non-lavatory (or those deemed to have insufficient such accommodation) "box" cars which had lengths of 42'6" and 46'. There were seven CUB sets numbered 80 to 86 consisting of six cars each. They were placed in service in 1929/30.

In these sets the HFLs had corridor connections at the end adjacent to the adjoining car. Their outer ends were plain except for the set number. Guard's compartments were fitted, also lookouts.

The second type consisted of independent cars, identical in appearance except that they were provided with diaphragms at both ends and normal buffers and couplings.

The third type was most likely an adaptation from an independent FL or BL, most of which were without diaphragms, and altered to contain a small compartment for the guard, without any lookout. To the best of my knowledge there was only one such car in existence.

Today there are only a few "L" type cars in passenger service, many having been adapted for use in the overhead wiring trains.

Len Clark,
Thornleigh 2120

Sir,

Re Modifying LIMA passenger Cars, AMRM Nov/Dec 1978.

A number of difficulties arose when I modified my Lima passenger cars in accordance with the article published in the November/December 1978 issue.

1. Figs 1 & 2 show the knobs in the pivot plate facing the sides. They should be re-assembled facing the front and rear of the bogie frames. This is essential as there is a pair of stops moulded into the recess under the carriage into which the bogies fit. These stops are fitted to limit the amount of rotation of the bogies. If the bogies are assembled as shown in the magazine article, they can only be installed sideways under the carriage.

2. The new IP Power Van has a lower valance across the bogie opening than does the sleeping and dining car. The valance is 1.2mm lower and fouls the tops of the bogies, thus limiting their angular rotation. This can be adjusted by filing the valance until the bogies rotate without touching.

3. For those modellers who fit Kadee No 5's, a piece of styrene packing 2.2mm (0.087") thick is all that is needed glued to the underside of the floor at each end.

Howard V. Smith,
Hornsby 2077.

Sir,

Firstly, belated congratulations on your 100th issue, Jan/Feb 1980. The colour section was outstanding, particularly Murray Billett's photo of the 830 and freight. Except for the timber trestle, it could portray the South Lines climb towards Sleeps Hill Tunnel.

I intended writing of the seeming lack of interest by modellers from the 3'6" gauge states, Tasmania, Western Australia and Queensland. However the article by Steve Malone about his excellent BB18¼ model built on a commercial chassis partly put paid to that argument. However, lets hear from Tassie and WA.

Incidentally, considering the comparatively small number of Hobby Shops in South Australia, we seem to be well represented both in prototype and model in the pages of AMRM.

Brian Johnson,
Paradise 5075.

Brian and readers may be interested to learn that both Tasmania and WA will be well represented shortly for the newly appointed sub-editors are now submitting completed articles. Of course the inclusion of these systems will be to the detriment to those who have enjoyed popularity in recent times.

The coverage of SAR prototype and models is not reflected to the number of hobby shops in any way. The credit can however be aimed at the industry of SAR sub-editor Phil Curnow and his helpers, notably Bob Yule and Roger Johnson. (Ed)

Sir,

Gregory D. Young (Mailbag 3/4/80) has suffered the same confusion as myself when first trying to understand signalling.

The diagrams are all correct and the text says that these "distant" signals normally only give a "clear" (90 degrees) or "caution" (45 degrees) aspect or its colourlight equivalent. But to reach signal 4 a following train would stop at "stop" signal 3, then cautiously proceed to 4. If 4 was still at 45 degrees the driver would have to treat it as a "stop" aspect, stop, then proceed cautiously prepared to stop short of any train ahead. This procedure is required until "home" signal is reached showing a proceed aspect, indicating the line is clear to just beyond the next "home" at least.

The two upper-quadrants either side of Arncliffe mentioned are three (not two) aspect auto-signals and were covered in the March/April '79 issue of AMRM. Having a lamp-case above the arm only makes them a "distant" signal if it has only one green light displayed at all times. At Arncliffe it is to improve sighting of the arm by approaching drivers that the two-lens lamp-case is mounted above the arm.

A. W. Perry,
Carlingford, 2118.

Sir,

Having a few spare minutes yesterday, I was looking through some back numbers of AMRM and found a small mistake in the Metric Conversion Tables as published in Issue No 61. I refer to the example set out to enable one to use the tables correctly. The example was to use HO scale, but inadvertently the figures quoted referred to the same measurement except that the TT scale measurement was used. I checked through the next two issues but did not see any note to the above.

This is only a minor defect, but I feel that it ought to be brought to your notice.

Colin A. Sebire,
Rosanna, Vic 3084.

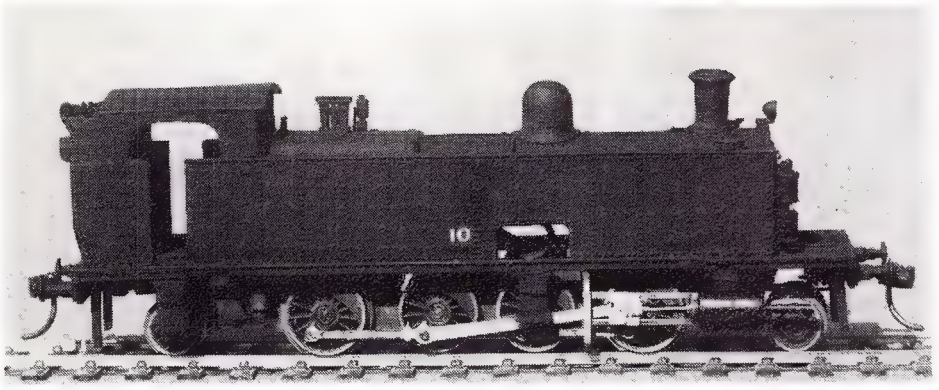
Thanks! Ed.

Sir,

I was looking through some old copies of the magazine and came upon the Comment column of Issue No 94. It started me thinking about "Motivation". Some time ago I decided I needed a D53 class locomotive of the NSWGR. At that stage FSM had not announced their intention to build a kit of this class so I was left with the choice of either going without or attempting to scratchbuild a unit. I have a reasonable size collection of imported brass models of NSW locos and it seemed like a good idea to attempt the challenge of building a model good enough to be seen at the head end of a goods train, piloting a 57 class or a Garratt.

Continued on page 50

REVIEWS



The South Mailtand Railways 10 class tank locomotive kit in HO scale, by FSM. Sample supplied by Finecraft Scale Models, PO Box 169, Forestville 2087. Price: $130.

The SMR 10 class 2-8-2 tank locomotive commenced service on the (then) East Greta Coal Mining Co Railway at Maitland. The express purpose of the class was to haul coal from the coal mines in the Cessnock/Maitland area to the East Greta exchange sidings where the coal wagons were hauled to either shipment points or storage by NSWGR standard goods locomotives of the D50, D53 and D55 class. The private railway company was forced to introduce the Ten class for the existing locomotives in service could not haul a train of sufficient weight to allow the standard goods locos an efficient load without remarshalling at East Greta. The SMR 10 class is virtually a tank version of the D50 class. Further details and photographs of the SMR 10 class appear in the May/June 1980 issue of the Australian MODEL RAILWAY Magazine.

The cast metal kit is supplied in a sturdy card box with the main parts being individually wrapped and the detail parts in poly bags, one for the chassis and the other for exterior detail. Driving wheels are Romford (insulated and monel) drilled and tapped 14BA. (This aspect will change as the stock of Romford wheels diminish, for Romford now are replacing current wheels with nickle-silver insulated and uninsulated wheels drilled and tapped 10BA for their own crankpins). The pony wheels are Romford fitted with EAMES axles and insulated bushes. The motor is ECM and the pickup a custom made unit of PCB and nickle-silver wire. The kit includes all components required for assembly except glue, paint and decals.

The body components and detail parts have been cast in a low melt alloy to FSM's specifications, the siderods and motion are nickle-silver castings and the chassis two milled sections of brass joined with weighty alloy. All required attachment holes have been drilled and tapped with the required thread. The kit is accompanied by the standard FSM assembly sheet, a SMR 10 class plan and a sheet of instructions especially designed for the Ten class. The plan is similar to the plan in AMRM last issue, plus a further section that is helpful to the modeller.

The components are up to the usual FSM standard and need only minor cleanup with a file prior to assembly. A good solid brush-up with a suede shoe brush will not only clean surface imperfections clean for good point adhesion but it also 'lifts' or highlights the detail. The chassis is true and square, made so by the already completed FSM chassis assembly technique. Before assembly it may be wise to check if the back-to-back measurement on the assembled pony wheels is correct (14.5mm) and that the pony wheel boss will accept the wheelset and allow it to rotate freely; if not reduce the width of the boss with a few passes of the file.

Assembly is straightforward and is recommended in the following order:

i. Body shell
ii Chassis and mechanism
iii. Detail.

The body assembly is very simple if instructions are followed in detail, and this is to make a jig from Perspex or pineboard, as per diagram. BUT there is an error in detail for the jig on the diagram. The specified 87mm dimension between holes is incorrect, the size being closer to 92.7mm BUT check the measurement between the holes provided in the chassis for holding the body on and make that dimension the measurement between holes. The jig provides for the holding of the body parts while being secured with glue and is the only way the kit can be assembled square. Assemble the body up to the point where exterior detail is to be added. It may be necessary to, during assembly, look ahead and drill any holes necessary for extra handrails or details.

Once again follow details and assemble the chassis and mechanism, keeping the uninsulated (pickup) wheels on the right hand side of the loco (facing along the loco). Ensure the pony wheels are so assembled to avoid heartbreaking short circuits. One other tip is to ensure that the top of the crosshead slide bar support is level with the top of the frame, again to avoid short circuits on uneven track or grades. While positioning the motor and gears double check on clearance so that the body will fit onto the chassis without fouling. Use Selleys' Bathroom Caulk for motor securing.

Once fully assembled test run and then commence body detailing while the chassis is being run-in. Upon completion, as supplied, the model is a representation of No 20 (as per photo on page 29 last issue), the kit having only verticle tank rivets, and it has an extended bunker as fitted to units 10, 18, 19 and 20. Detail includes water hatches, brake cylinders, small headlight and similar rear light with a wrap-around cover. Buffers, rail guards, sand boxes, steps and poppet valves also adorn this chunky units.

The model is accurate in dimension, superb in detail, tremendous in operation and unbeatable in pulling power. The kit captures the chunky appearance of the prototype and has excellent operational opportunities on a layout except that the push-rod protectors will have to be removed if No 4 points are to be traversed. As a modelling exercise assembly of the Ten class was one of the easiest ever attempted by the reviewer. Assembly of the body shell took 40 minutes and the chassis took 4 hours, the adhesive drying time being the time consuming matter. Modellers lacking experience may not match these times, but should not be put off, for the overall exercise is not as difficult as it may appear. Apart from adding extra rivets, modifying and detailing to represent units other than 20 is possible and may be a reason to have two units on the roster. As for pulling power, the chassis alone can haul the equivalent of most brass Japanese produced locomotives.

Bob Gallagher.

Peco Magni-Simplex Decoupler for HO/OO. Sample supplied by Australian Model Craft, PO Box 118 Albury. Price: $2.35.

The 'decoupler' is another name for the magnet by which the Peco Magni-Simplex Auto Couplers are uncoupled. It is 55mm x 10mm x 3mm thick and is designed to be glued flat on the sleepers between the rails on a straight section of the track. A contact adhesive would be best suited for the task. It is essential that the magnet does not protrude above the rail head.

When placing the magnet in position keep it in the centre of the track by checking that the space between rail and magnet is the same both sides.

Bob Gallagher.

Peco Accessory Switch for fitting to turnout motors. Sample supplied by Australian Model Craft, PO Box 118 Albury. Price: $1.95.

One of the never ending problems with electric model railways (before command control) is that of electrical conductivity through turnouts. Manufacturers have used many methods to overcome the problem of the polarity of the frog changing with the turnout, but most have failed. There seems no better way than a switch that will give positive contact, but it is frustrating having to install additional switching (or relays) and wiring to alleviate the problem. The answer of course is for the switch to be attached to the turnout motor.

The item under review is such an item that can be attached to the Peco turnout motor, coupling up the drive pin and the respective hole on the switch. Provision is made for the connecion of the three cables i.e. the common/ feed 1/ feed 2 by means of grip lugs, although a quick wipe with the soldering iron would serve a longer time. For switching track power it is simple to bring a wire from each rail down to feed 1/ feed 2 and wiring the common to the frog area of the turnout, and positive electrical control will be the norm.

A very useful product for the users of Peco points and point motors.

Bob Gallagher.

Peco Magni-Simplex Auto coupler for HO/OO. Samples supplied by Australian Model Craft, PO Box 118 Albury. Price: $1.75.

This coupler is designed for magnetic-operation where, by the use of a magnet between the rails, two wagons can be uncoupled. It is based on a horn hook arrangement, and bears no resemblance to couplers on Australian trains.

The pack, which contains sufficient parts for two couplers, is illustrated on the rear with assembly instructions which are very clear and easy to understand. The coupler comprises five parts, the base, the spring, the screw, the coupler and the pin. The base and the coupler are made from styrene, while the remainder are steel. The only mechanical task is to form a thread in the base with the screw which can be accomplished with one's fingers. Assembly is then straightforward even to the point of adding the steel pin, which is the means by which the magnet will move the coupler. It would be wise to glue the pin in place once the correct rail clearance had been attained.

The base is provided with pins by which the coupler can be attached to the respective wagon, although the Peco Wonderful Wagon kits are the only known (to the reviewer) units which will readily accept the coupler. The styrene bearing surface is good, mechanically speaking, for free movement between the coupler and the base, and as such operation appears smooth.

Bob Gallagher.

HOW TO BUILD MODEL RAILROAD BENCHWORK. By Linn H. Westcott. Published by Kalmbach. Price $6.00.

One of the current crop of new titles available from Kalmbach, this book deals with that most basic aspect of our hobby — benchwork.

The author of the book is Linn H. Westcott who will be familiar to many readers for his 43 years of involvement in the publishing of Model Railroader.

It is probably fitting that Westcott be the author of a book on benchwork as amongst several important innovations he has contributed to the hobby is the development and popularising of the "L" girder method of constructing layout benchwork. Since it was first introduced this method has grown to rival and even surpass in popularity the more traditional open grid method.

The book begins with a brief discussion of some basic ideas such as layout shapes, aisleway widths, benchwork height and width etc. These layout design concepts are not given an indepth coverage here as they are adequately dealth with in several other Kalmbach books but a gentle reminder of some of the more important points to consider in layout design is welcome.

The second chapter is similarly an introductory one which looks at timber, fasteners and tool basics.

Chapter three begins the actual consideration of construction techniques and from here the book can be divided into three parts.

The first part consists of a group of three chapters which deal with the benchwork itself and, whilst open grid type support is adequately discussed the major coverage relates to "L" girder benchwork.

Special sections on legs, girders and a step by step example of framework assembly and levelling provide a wealth of ideas and information. Tables included provide such useful data as overhang maximums and recommended maximum distances between supports for a wide range of joist and girder sizes.

Anyone building benchwork for the first time or not familiar with "L" girder techniques should find this section particularly useful.

The second section deals with the installation of

joists and risers to provide the support system for the roadbed and scenery. Normal situations are examined first and then the author progresses to the more unusual to examine support for special situations (i.e. spirals, valleys, benchtop to floor scenery etc.)

Backboards, front panelling and scenery are also dealt with in this section. The use of attractive front panelling is an aspect I have always found appealing on US layouts.

The third and final section of the book is a short section on the installation of roadbed. Almost as an afterthought it seems, a section on tracklaying and ballasting is included to finish the book.

Production-wise this book is up to the usual Kalmbach standard. I found no obvious errors and it is illustrated with a host of excellent diagrams and photographs.

The general thrust of Kalmbach publications has always been a "state of the art" approach to the subject at hand whether it is advanced electronics or something as basic as scenery.

The approach of this book is no exception. It presents the latest in benchwork construction techniques but do not let this deter you as there is nothing in this book that has not been tried and proven.

Some sections of the book I thought could have been expanded. In particular the use of splined roadbed needed expansion, but this is probably in the advanced category.

Overall then I would recommend this book as a starting point for anyone about to build a layout. It contains a wealth of information for the beginner and expert alike.

The US magazines (especially Railroad Model Craftsman) have, over the past couple of years covered in depth some fine US layouts. This coverage has demonstrated the potential and, even necessity for the latest benchwork construction techniques. I have not seen them used locally to any great extent yet. Perhaps this book will lead to the wider use of creative benchwork.

Ron Cunningham

Troller Autopulse Transcab Model 2000 handheld controller. Sample obtained from McBees Hobby Centre, PO Box 144 Coburg 3058. Price: $27.95.

Handheld controllers are becoming popular for the average railway modeller as they now become available in the hobby shops. They have, in some form or other, been in existence for many years, but due to some of the complexities the use of same has been restricted to experienced modellers who have utilised the moveability of the style of controller to full advantage. The advantage of course is that the use of the handheld controller allows the operator to move around the layout. For layouts wired for cab control the operator can move around the layout with the controller, plugging into sockets where necessary, or for local control layouts can be used to control the train while the operator is away from the control panel. The uses are limitless and only the imagination and electrical wiring ability of the modeller would restrict the useage of the handheld controller principal.

The Troller unit under review is enclosed within a black metal 78mm x 55mm x 39mm aluminium box. Provision for control is made with a slide centerless direction control and a 40mm diameter x 20mm thick control knob. The face of the unit is lettered in deep orange and has two indicating lights, a yellow one for track voltage and a red light for overload. The four core lead, permanently attached to the controller is a foot or so short of the manufacturer's claimed three metres. There is no plug on the other end of the cable, the manufacturer leaving the connection method up to the individual user.

For operation it is necessary to supply an 8 to 20 volt AC supply to the controller via the lead, the accompanying instructions detailing the necessary connection. As power is applied to the track the yellow lamp lights up in proportion to the voltage. If and as a short circuit occurs the red lamp lights up and cuts out the track voltage. The red lamp remains on until the short circuit is removed where the track voltage will be reapplied at the setting of the control knob.

The control aspect of the unit is very smooth on locomotives, drawing less than 0.75 amp current. On the tests carried out using a 12v AC supply, all units drawing less than the 0.75 amp were accellerated and slowed down with ease. The control is responsive and positive and the full 270° of control is necessary for full speed on most units. The control is the same for both commercial and custom (Japanese brass) made locomotives and on motors provided for the scratch/kit builder.

On the demerit side the (electrical) pulse action of the controller is very noisy on MW005 and ECM motors at low speed, the noise abating once a level of medium speed (too fast for tank engines) is attained. The size of unit (mainly the thickness) makes it a little uncomfortable to use singlehanded. Lastly there is no provision to hang it anywhere and until a bracket and provision for hooking it up is made the dratted thing constantly finds its way onto the floor. This last demerit can be easily overcome

Bob Gallagher.

Doors by Period Miniature in N scale. Samples supplied by McBees Hobby Centre, PO Box 144 Coburg. 3058. Price: $1.40 pkt.

For quite some time now HO modellers have had it on their own when the commercial supply of detail parts have been concerned, but gradually N scale modellers are being provided with the means to construct and detail structures. The Period Miniatures range of parts are supplied as metal castings in poly bags and usually there are four items in each pack. The item under review is doors, although it should be correctly described as door, jamb and fanlite. The complete metal casting is 18mm x 8.4mm and represents a door with two glass half panes of 1.8mm x 5.6mm. The fanlite above the door has a glass area of 2.6mm x 5mm. The door jamb is bevelled so that it would only be necessary to cut a neat hole 7.2mm x 17.5mm and glue the door in place, the jamb will neatly cover the gap between door and wall just like the prototype. The casting is crisp and detail sharp. Detail does include a doorknob which even appears to be on a shaft.

A superb piece of detail.

Bob Gallagher

HO scale ladder kit by Evergreen Scale Models. Sample supplied by McBees Hobby Centre, PO Box 144, Coburg, 3058. Price: $1.55.

The ladder kit will make 600mm of HO scale ladder. Parts included in the kit are: four 300 lengths of 4" x 3" ladder stringer and three 300mm lenghts of 3" x 2" strip for steps. All pieces are well formed sections of styrene strip which are free of any burrs or kinks. To simplify assembly the stringers have been notched at 10" intervals to accommodate the 3" x 2" step strip.

Using MEK or similar solvent, assembly is quick and neat. I assembled a short length of ladder using the following method: Two pieces of stringer (cut to the desired length) were taped to a piece of perspex at the end and of course at the width of the ladder, in this case 12". The step sections were cut oversize and MEK'd into the notches. When the assembly dried the steps were trimmed flush with the stringers.

As with all Evergreen Scale Models associated materials, the ladder kit is a quality product for the scratchbuilder, and will be a boon for the HO ladder makers of Australia.

Ian Thorpe.

Australian Sugar Tramways by I. R. Crellin, published by the Light Railway Research Society of Australia, 35 Oakern Rd, Mount Waverley 3149. Price $2.20.

'The Challenge of the 1980's is the subtitle of this 32-page booklet which covers, as the title suggests, the tramways that work the Australian sugar fields during the harvest season (winter to late spring). The sugar belt stretches from near Grafton to Cains in North Queensland, and is serviced by some 2000 miles of narrow gauge (mostly 2'). The booklet covers a little of the history but covers mainly the present and some of the problems facing the future of this industry.

The booklet is illustrated with numerous black and white photographs which cover some of the numerous locomotives (steam and diesels), the old and new rolling stock and the mechanical cane cutters and unloading equipment. Photographic and text descriptions cover the many facets of cane tramways that would interest and guide a modeller basing a layout on the modern cane tram.

Bob Gallagher.

The Saga of 'Sandfly' and the Lost Tribe by John Buckland, published by the Light Railway Research Society of Australia, 35 Oakern Rd, Mount Waverley 3149. Price: $1.60.

This 24-page booklet covers the Baldwin-built 0-4-0 Saddle Tanks on 3'6" gauge (in Australia). There were eight of these quaint saddle tanks sold to Australian interests and were delivered between 1884 and 1891. Despite only being a small engine by any standard the scope of operation was amazing. The book traces the life and operation, including the many changes of ownership, that these eight locomotives undertook, from Melbourne to Carnarvon (WA), from Tasmania to Darwin; the stories are very interesting.

The text is profusely illustrated with numerous black and white photographs (including one of the preserved 'Sandfly' at Port Augusta) as well as a large scale four aspect plan of the diminutive motive power.

The text is written in a flowing style that is interesting and easy to read and understand. A fine booklet that would interest those with a love for the unusual.

Bob Gallagher.

World Atlas of Railways by O. S. Nock published by Artists House Mitchell Beazley. Sample supplied by Hutchinson Group (Australia) Pty Ltd, 330 Wattle Street, Ultimo, NSW 2007. Price: $29.95.

O. S. Nock is synonymous with railways and the mention of his name on a book suggests and usually is accuracy. This hard bound 347mm x 273 mm 224 page book is a multi-coloured class publication that covers the railways of the world. The book is broken into seven sections; The Development of Railways; How Railways Work Now; Great Routes; Great Expresses; Atlas; Railway Systems; Reference; the heading being completely descriptive of the contents.

While O. S. Nock is clearly credited as author he actually edited the book which was written by a team of experts. The book covers the evolution of Railways up until current times and is profusely illustrated with colour prints enhanced with some sepia-toned and black and white illustrations.

Each country of the world is covered, as are the major trains. (Yes, the Indian Pacific is included but not the Southern Aurora.) On general descriptions Australia and New Zealand rate one page, although this does not detract from the overall coverage. The maps are multi-coloured and in actual accuracy must be questioned for there are at least five or six lines in the Murray-Murrumbidgee area missing, while the Pilbara area in WA is covered.

Despite these known discrepancies it is an excellent production, and while it may not be specific in detail for one area (ie Australia) it is a World Railway Atlas. Ideal for those interested in railways, and Father's Day is coming up, so leave AMRM open at this page and circle the review. Just a suggestion.

Bob Gallagher.

NSW Brake wheels and mounting brackets in HO scale, produced by Ray Pilgrim, 29 Otford Road, Helensburgh, 2508. Price: $7.50.

Modern NSW goods rolling stock have always been a problem to model in fine detail unless one possesses special talent, for some detail items are unlike anything on overseas' railways and as such are not available commercially in model form. The handbrake wheel is one such item, being hung from the sub-frame by a 9" x 4" formed bracket and the wheel being of a cross configuration the four bars being 2" wide by ¾" thick and overall 20" long. In 87:1 scale they are small. Some years ago Workshop Five Models produced a limited quantity of expoxy mouldings but these were limited in supply for some modellers managed to quickly buy up the complete stock.

As produced by Ray Pilgrim the brake wheels have been formed by the photo etching process and the 50mm x 50mm section of 0.1mm thick brass sheet contains sufficient wheels and brackets for 14 wagons (2 per wagon). The wheels have been etched right through except for a small retaining lug. Holes have also been formed and removal is simple as would clear up with two whisks of a 4" fine cut file. The bracket is the correct shape and size and the brake wheels are close to accurate except that wheel rungs are 1mm wide, but dead accurate rungs would

probably disappear. A useful addition to the Australian modelling scene.

Bob Gallagher & E. S. Davies.

Kappler Mill Lumber Co timber siding. Various sizes. Sample supplied by McBees Hobby Centre, PO Box 144 Coburg 3058.

Timber siding is used during modelling as the outer shell of buildings, wagons, coaches or for timber loco cab sides. It is also used for structure interior such as walls, flooring and roofing. Basically the availability of milled siding provides the modeller the opportunity to use the correct size and shaped siding in the required position, making for higher detailed models. Of course it is possible to make your own siding, but it is time consuming.

The Kappler milled siding is supplied in a poly bag, there being two 12" x 3⅝" sheets of siding. The attached label lists the size of spacing in actual size and in H, HO, S & O scales.

The sample reviewed was bevelled spacing or otherwise known as clapboard siding and used in Australia to represent weatherboards on structures. The shape is clearly and cleanly cut into the timber, there being no sign of fuzz or fluff, common on some timber siding. The siding cuts readily with a sharp blade or a razor saw. It is readily fixed in place with PVA glue, some of the super glues and some of the rubber adhesives.

A quality product just waiting to be made into an Aussie style structure, or a Yankee one or even an outhouse from the British Isles.

Bob Gallagher.

10.5mm 10 spoked wheel for 16.5mm gauge by North Yard (NZ). Samples supplied by McBees Hobby Centre, PO Box 144 Coburg, 3058. Price: 70¢ per axle.

AMRM reviewed the North Yard 10.5mm disc wheel in the March/April 1980 issue of AMRM and now we have the opportunity to closely inspect the spoked version. This wheel has been produced primarily for the Australian market, for the ten spoked wheel seems to be an Australian special.

The wheel is turned brass shaped to NMRA RP25 outline. The brass pin-pointed axle is also turned brass to NMRA dimensions, i.e. 25.5mm pin-point to pin-point. The spokes are plastic and form an insert between the tyre and the axle. The complete assembly is blackened, chemically, for final appearance.

The brass axle makes use with Kadee couplers ideal, for the magnetic drag of uncouplers cannot affect the wheels while in motion; brass is not magnetic. The samples supplied ran true on the axle and had a back to back dimension of 14.5mm. The wheels are firmly fixed onto the axle and a correct wheel puller would be required to move the wheel on the axle if the back to back dimension needed correction.

There have been quite a few brands of 10.5mm spoked wheels added to the Australian market in the past few months and these are equal to all others, if fine scale modelling is the basic requirement.

Bob Gallagher.

The KITCHEN WHIZ by Breville. Available almost everywhere at around $100, but shop around.

I guess there exists in all walks of life those old-timers who hark back to the good old days when life was somehow better. This, in some areas may be true but those who take this attitude in respect to the hobby of railway modelling must surely have ignored the many fine tools and new equipment that is becoming available from numerous manufacturers to help the railway modeller.

One such example of this new equipment for the modeller is offered by a newcomer to the model railway field. I refer to the Kitchen Whiz by Breville.

I was fortunate in being given permission by the Financial Controller of this household (otherwise known as the wife) to purchase one of these Kitchen Whiz's just before last Christmas.

I had had my eye on one for several months prior to purchasing the Whiz ever since a fellow modeller (Ray Pilgrim) had described its main use to me.

This is to produce large quantities of that most basic but extremely useful scenery material — ground foam.

Ground foam had not, to my knowledge been a widely used scenic material in Australia until Ray and Chris Pilgrim demonstrated its versatility on their Bylong layout. It is widely used in the US and is frequently referred to in layout articles in the US model magazines. It can be used in a variety of ways to represent different types of shrubs and bushes, etc.

I had experimented on a limited scale with ground foam scenery techniques and the timely arrival of the Kitchen Whiz has facilitated the production of large quantities of the material.

The basic technique is as follows.

The Kitchen Whiz consists of a powerful rotary motor which spins a cutting blade at high speed inside a transparent plastic container.

Blocks of foam cut into 2" squares are placed in the container. (Block foam of the type used for cushion filling, etc is available in sheets from numerous outlets. I purchased mine from Nock and Kirby, and purchased as offcuts it is very cheap.) Water is added and the Kitchen Whiz turned on whereupon the cutting blades quickly reduce the foam to a pulp mass.

This pulp when dried can be pulled apart to give the basic ground foam scenery material.

You may have to experiment a little to get the water quantity right as this seems to make a difference to the end product

Once dry the foam can be dyed any colour of the rainbow to produce the foliage effect you are after. It is particularly good to represent shrubs and low bushes.

Well, back to the Kitchen whiz itself.

The machine is extremely well made and comes in a variety of colours.

The operating instructions leave a little to be desired and in fact I could find no mention of the ground foam technique — still the Whiz does do the job.

I am more than happy with the Whiz, but a word of warning. If you do decide to purchase one be careful where you leave it. It has a most disconcerting tendency to wander off out of the hobby room into the kitchen. Here your wife will use it for all sorts of odd uses and as every modeller knows there is nothing worse than someone borrowing your tools and not returning them.

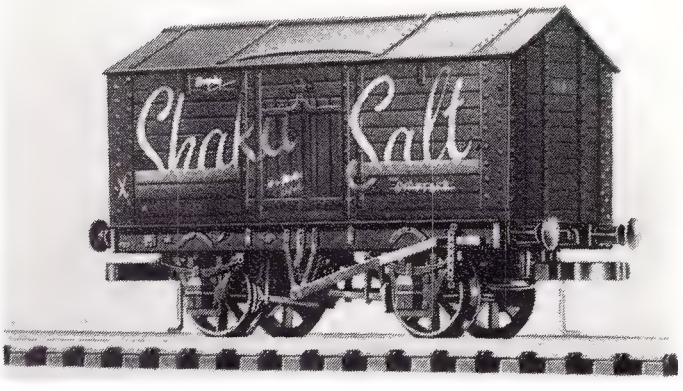
Highly recommended.

Ron Cunningham

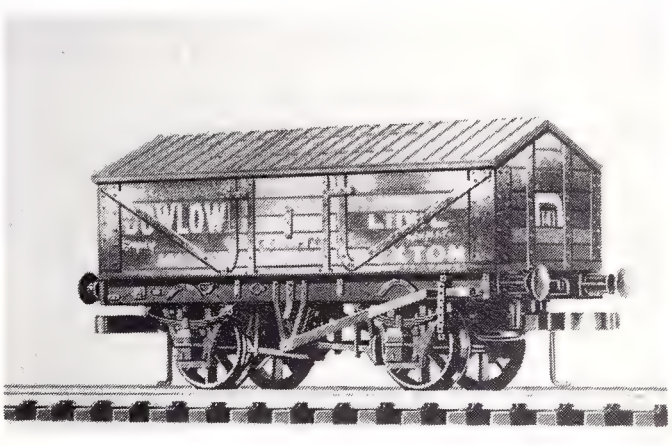
NEW PRODUCTS

The Peco organisation, represented in Australia by Australian Model Craft, PO Box 118, Albury, 2630, have announced the pending release of a number of new products. Included is a HO/OO plan book and right and left hand double curved turnouts and Setrack level crossings with either barriers or gates. Also included is platform systems for the Setrack range and a number of new wagons in the OO gauge Weathered or Dirty wagon series. Some are illustrated below. A new Peco catalogue has been released and its 60 pages cover the range in all gauges and has 495 illustrations to highlight the largest, yet to be produced, Peco catalogue.

In N scale the Jubilee locomotive, has been improved and re-released while body kits for the Industrial and Hymek locos will be available to add to Arnold chassis. Add to this level crossings and fencing, along with several more of the Quality Line wagon series.



The Shaka Salt wagon in the Weathered or Dirty Wagon series. Illustrated with the Magni Simplex Auto Coupler.



Illustrated above is the Dowlow Lime and the Circle Cement wagons in the Peco Weathered or Dirty wagon series.

AMRM NEWS

An Error . . . An Apology.

Unfortunately, at times, a comment can be wrongly interpreted to a point where incorrect implications can be pointed at individuals or organisations. It is disturbing when these comments are made, especially when the comment was made in all innocence.

One such comment was made in an editorial answer to Garr McGhie's letter in the last issue of AMRM, when the answer implied that Peco Streamline is the only flexible track that can be posted through the Australian Postal system. The comment should have specified that flexible track of three foot length can be posted in Australia. We regret and apologise for the error.

Money, but No Address.

One of the problems facing any organisation dealing with the public by mail, faces a problem that is not of its own making, but no doubt is discredited by the ensuing action. Basically it is the simple matter of customers failing to put full details of their requirements in legible written form or at times even identifying themselves.

At AMRM we have had some amusing incidents which has extended the patience and investigative power of the office staff to the limit. It is now rather unusual to receive a signed cheque and a blank renewal form from subscribers. Thankfully our data process system will allow us to identify the subscriber if his signature is legible or his name is printed on the cheque, so long as his name is not Smith or Jones. If all else fails we seek assistance from his bank manager. If it is a postal note we can only wait for the offending subscriber to complain, but they never seem to. (No doubt the local bull session blames AMRM for not sending the sub). It is now also quite common to receive requests for back issues and subscriptions with an illegible name and a shaky address. We can usually deliver the goods, but customers get quite upset when we record their name incorrectly on our data process. It is also rather common to receive a request for goods and receive no forwarding address (Would W. Edgar send his address).

But recently we received our best yet mystery when an envelope arrived with 45 cents in silver inside (it is illegal to send cash in the post) and the numeral '1' on the envelope flap. A tip for the manager? Fortunately, we received a very brief note a week or so later and hopefully we have satisfied another customer.

Sure the incidents can be amusing, but in most instances we need to spend countless hours (per year) trying to fathom out the customer or his address and it does tax our voluntary labour system. Please, when sending a sub or a request for back issues or even writing a letter, make sure your name and address is clearly printed so that you can be identified.

We are not the only recipients of this problem, so make a habit of printing the necessary details not only on your correspondence to all and sundry but also on the envelope flap, just in case you do forget to write it inside.

Subscriptions and Acknowledgements

Some intending subscribers have been complaining re non-receival of a sub, a few weeks after they have posted their request. Not withstanding the as yet non-published issue, in most instances the problem has occurred when the subscription has been received between the cut-off date and the publication of the issue. The cut-off date for any issue is the first day of the first month of the issue, e.g. the cut-off day for this issue (the July/August issue) is the First of July. We need this time to update our files and forward all details of our data processor so that they can prepare the envelopes for delivery of the magazine, which is usually around the 25th of the month. Unfortunately, we do not have the time to send each latecomer a notation of the problem.

Those intending subscribers or subscribers renewing requiring an acknowledgement of receival HAVE to include a Self Addressed Stamped Envelope or the request will remain a request.

Correspondence.

It is the policy of this magazine to try and answer all correspondence but at times this is not possible without a lengthy delay, for we must use our limited time to the best interest of the Magazine, which is usually article and mechanical production. We do read all mail and would like to answer all complaints and enquiries, but we do plead for patience. A quick answer will be given (if possible) if space is left on the enquiring letter and a SASE is included, but unfortunately we will not debate an issue by letter; we simply do not have the time.

In recent months we have published virtually all correspondence unedited. We do need to receive letters from readers pointing out errors, subjects missed, new subjects or just general comments on the mag so that we at AMRM can produce a magazine to suit your needs. If we are not pleasing individuals it may be due to not knowing the need.

AMRM . . . long life?

Every now and again we raise this topic (usually unsuccessfully). We receive this cynical remark (or letter) implying we are self glory seeking. But the time will come (it could be around the corner) when the current crew that keep AMRM afloat have to retire, and unless there are trained staff on hand the magazine as we know it now WILL fold.

As readers are aware AMRM is run on a voluntary basis where all listed staff give their time free of charge. What is probably not known is that a small crew keep the magazine going, carrying out time consuming chores. This does not detract from the remainder of the crew who (mostly) are specialists in their own field and are usually occupied preparing articles for reading. The life blood (for want of a better term) are those who prepare the final text for publication, proofread and paste up the artwork, prepare the advertising, the photographs, the diagrams and make inflamatory comments for the benefit of the reader. There are also those who write the invoices, do the banking, do the mail, the subs, the back issues, chase advertisers for copy and money, mail out the issues and many of the sundry office tasks. All of this work is carried out by nine individuals. If one or two retired the workload on the others would increase, but if just one of four resigned, at the present time, the magazine would fold.

In past years AMRM has been staffed from within the SCMRA but in recent times the general readership have taken a more active part. We now need more new blood from individuals who have some ability, some spare time (average one or two nights a week), a love of model railways and a lot of enthusiasm to learn some of the important tasks in keeping AMRM alive.

The tasks of preparing copy (i.e. proof reading and paste-up), diagrams, basic management and even editorial matter need individuals to understudy the necessary process. We cannot promise payment for the task but we can promise a lot of hard work and a lot of self-satisfaction.

We need new blood NOW . . . tomorrow will be TOO LATE.

If you are interested, or feel you have the basic requirements listed above please write to us now.

A Request and . . . replies!!

At last it has happened. Not an earth shattering event but one of major importance for some readers have replied to a plea for Hints, published in AMRM last issue. The event was the reply, by two readers, to the plea which is often made but very rarely sees results. It does seem incredible that from over 8000 AMRM readers only two have a suggestion or hint to pass onto other modellers. Maybe this is one reason why we trail the rest of the world, for if no hints are offered, maybe we all lack sufficient knowledge.

All jokes aside AMRM relies upon readership support for articles, and submissions by new authors does give AMRM a little fresh originality, which we all can share. Regardless of the above, thank you Bob Comerford and Peter MacKenzie for your contributions.

The Great Debate.

Well the debate has come and gone and what did we achieve apart from some self satisfaction that we have once again 'knocked' some fellow Australians. The debate on both sides, generally, is very singleminded and of little worth in the final analysis. Some debaters claimed first-hand knowledge of methods for improvements or made claims against individuals but ALL showed their true colours when they failed to back-up their original complaints/points.

The disturbing aspect of the issue was that it came at a time when the Australian prototype side of the hobby was entering a new phase, no doubt brought about by the (previously noted) demand for better quality kits. Well they are on their way, and it will be interesting to see where the Australian prototype modeller puts his money. The cartoon on page 44 of last issue was an indication of what can be expected (by experience) when manufacturers try to satisfy the demands of some modellers. For the record, the cartoon was not prepared by AMRM staff, and talking to retailers it is rather common for some (archair) modellers, who by their loudly spoken claims, tend to do more harm than they intend to.

Knockers.

"If you have the habit of 'knocking' you are unlikely to make a hit." W. G.P.

The above caption was the thought for the day on Wednesday, March 14, 1980, and the implication could be applied to some of the comments being voiced lately at some of the local manufacturers. Australians love to 'knock' Australian products, whether they are model trains or cars, and one must wonder what can be achieved by some of the senseless remarks.

Commercial News

Not a lot to report this issue, for it seems that some of the talk is diminishing and action starting; that is production is underway.

Ray Pilgrim has released NSWGR wagon brake handles in a pack to superdetail 14 wagons.

Some repainted Lima wagons are now on the shelf in hobby shops, being the car carrier and the container wagon, repainted to Australian livery. Lima have commenced production of the GM/S/42 class body shell and our reporter indicates that the bogies are representative of the latter 'S' class. Work is also progressing on the TAM/MBE carriages.

The BCH coal hopper kit, produced by AR Kits, could be in the hobby shops soon, while it is very possible that the LCH kit by JAX will be available around the time this issue of AMRM hits the streets. Both kits are of sectional styrene injected moulded manufacture and will be definitely a new style of kit for the local modeller.

By all reports the 43 class model, being imported from Korea by Mansfield Hobbies, will be a good

P.T.C. 'RACE' CONTAINERS

Since instituting the Railways of Australia Container Express scheme in 1973/74, the Public Transport Commission of New South Wales has built up a fleet of 1,835 boxes for its road-rail co-ordinated freight service. These containers consist of:

A number of these boxes have been assigned to specific traffic tasks, such as the use of the 2000 and 4000 series units in explosives transportation. Full details of the employment of RACE containers will appear in future issues of this magazine.

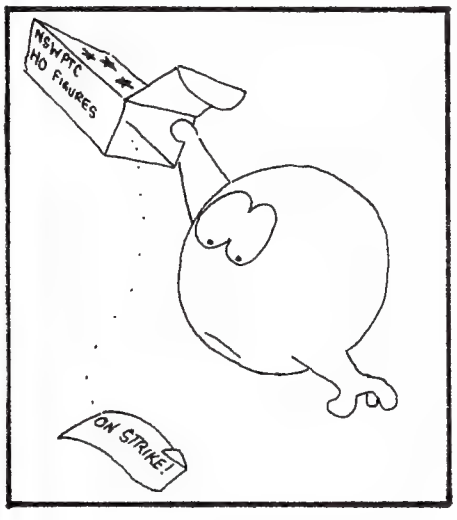
Paul Rogers

Code	Description	Qty	Serial Nos.
IC	7.5m Insulated Container	1	751
OT	6.1m Open Top Container	6	1001-1006
L	6.1m Louvred Container	6	2001-2006
VC	6.1m Louvred Container	500	2200-2699
CP	6.1m Cargo Platform Container	6	3001-3006
D	6.1m General Cargo Container	6	4001-4006
GC	6.1m General Cargo Container	50	4900-4949
D	6.1m General Cargo Container (I.S.O. type)	500	4200-4699
SL	6.1m Side Loading Container	40	5001-5040
MSL	6.1m Modified Side Loading Container	560	5041-5600
LRC	12.2m Mechanically Refrigerated Container	160	6400-6559

model. The pre-production pilot model on show at Mansfield Hobbies is certainly bringing some interesting descriptive comments, none derogative.

The water tank kit, made in limited numbers by Steven Johnson, is a very impressive unit. The tank consists of expoxy castings while the supports are of milled brass shapes. A beaut kit.

For modellers interested in road vehicles to detail the layout, the Jordan range of cars is becoming easier to obtain in Australia. McBees Hobby Centre and Vic Barnes, are just two of AMRM advertisers who stock the line in quantity.



MAILBAG

Continued from page 44

Armed with a Dremel Moto-Tool, several pieces of shim brass up to .010" thickness, 5 minute Araldite, some 12 BA screws and tap, an expired NCR adding machine, a piece of aluminium tubing, some shotgun shell pellets and some very basic hand tools (files, screwdrivers, etc) I set about the task. The only thing I had a surplus of was time. I had "time" by the "S" truck load! I was, at that stage, posted to Mount Hagen in the highlands of New Guinea and there was little else to do anyway. I sent to Australia for a Data Sheet plan of the D53 and also a set of Romford drivers and an ECM motor.

The result: a complete disaster! Well, almost. It does run quite well but the detail (did I say detail?) is sadly lacking. It would look quite at home on the layout if I were to instal a siding called "Simms Scrap Metal Merchants", for it looks as though it has been attacked by the dreaded "oxy" torch.

Yet every time I look at that first attempt I am motivated. I get the urge to have another go. I seriously doubt that I will ever build a masterpiece, but who knows? Even now work is proceeding on 5302. By the time I reach 5490 maybe I'll have a presentable model.

My advice to anyone who desires a model of a specific class of locomotive (or rolling stock) which is either not commercially available or is too expensive, is to try scratchbuilding. Maybe you'll turn out to be another Frank Kelly or Laurie Evans. Both of these fellows have turned out some beautiful models but I feel sure they would be a little reluctant to exhibit their first attempts.

Even in its nude state, I still get a bit of a kick out of seeing this thing (?) on the layout because I know that I built it with my own hands. It's a very satisfying feeling.

One thing about it which does make it attractive is its cost — about $30.

Bill Roach,
Boroka, PNG.

Sir,

Re K. Hayward's letter in May/June, 1980 AMRM on where do you obtain the Matchbox cars that are no longer produced May I suggest that interested parties try some of the following venues: Church/School and various organisation fetes; Trash & Treasure markets; old stock at toyshops; second-hand resale outlets such as Opportunity shops and those run by The Salvation Army, Red Cross, etc, etc, workmates whose family has grown up; grandparents toyboxes and dont forget the local tip, for models need not be in new condition the point being that many items (wheels, etc) can be obtained from these seemingly useless models.

Good Hunting!

Bower Bird Burke,
Aaark, Aaark.

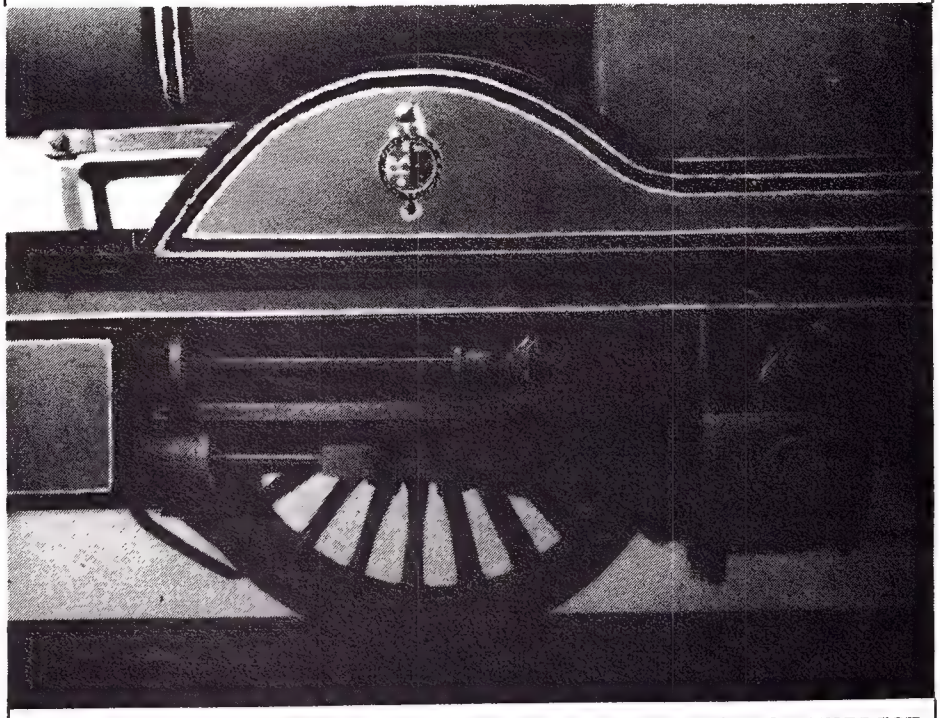
AUSTRALIA'S PREMIER MODEL RAILWAY EXHIBITION

THE SYDNEY MODEL RAILWAY EXHIBITION

WILL BE IN THE

WESTCO PAVILION

R.A.S. SHOWGROUND, SYDNEY.
(DRIVER AVENUE)



FEATURING OPERATING LAYOUTS, WITH SOMETHING TO INTEREST EVERYONE; FROM BEGINNER TO ADVANCED MODELLERS; FROM 'N' GAUGE TO '1' GAUGE; SCALE MODELS, COMMERCIAL MODEL TRAINS, PLASTIC MODELS, MUSEUM EXHIBITS, MODEL RAILWAY BOOKS AND PERIODICALS.

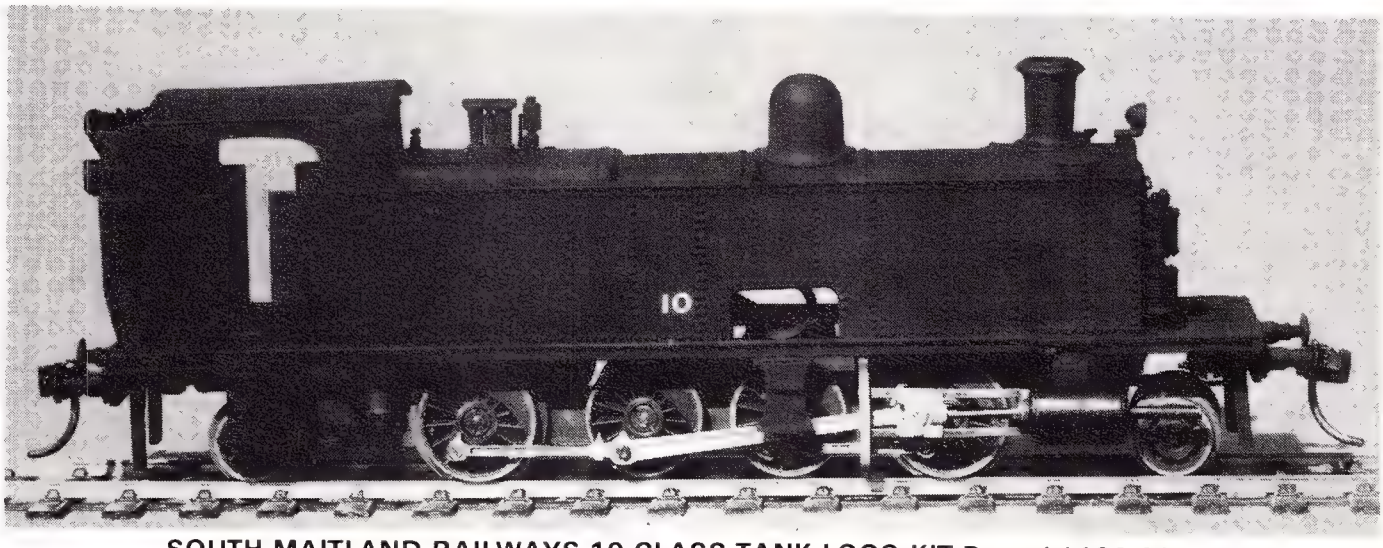
LABOUR HOLIDAY WEEKEND

SATURDAY, 4th October, 1980	10 am to 8.30 pm
SUNDAY, 5th October, 1980	10 am to 6 pm
MONDAY, 6th October, 1980	10 am to 6 pm

ADULTS $2.00
CHILDREN & PENSIONERS $1.00
Children Under Five Years Free

Australian Model Railway Association, (N.S.W. Branch)

FSM



SOUTH MAITLAND RAILWAYS 10 CLASS TANK LOCO KIT Posted $130.00

Z24 Loco & Tender. Posted $90.00

Z25 Loco & Tender Posted $90.00

C35 Loco & Tender Posted $115.00

D53 Loco & Tender Posted $130.00

D55 Loco & Tender Posted $135.00

Z18 Tank Loco Posted $75.00

C35, D53 & D55 kits can be ordered with either Wampu or Turrett tenders as required. The Z25 kit is available with extended smokebox. No extra charge for either.

Our NEW Catalogue is still being compiled and extended and probably will be available by the end of May, 1980

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Highland Station	$35.20

MUIR MODELS

Nevada County Engine House	$33.75
Nevada City Fire Station	$32.90
Nevada City Pharmacy	$28.65

HOMETOWN

Pickle Plant	$19.65
Marble Mill	$22.50
Fertiliser Plant	$23.05

RAILCRAFT

HO code 70 Flextrack	Per yd $2.95
HO code 55 Flextrack	Per yd $2.95
Weathered rail, code 100	Per yd $0.65
Weathered rail, code 70	Per yd $0.75
Weathered rail, code 55	Per yd $0.65
Weathered rail, code 40	Per yd $0.60

WALTHERS

HO Catalogue	$5.00
N Catalogue	$3.00

YATMING (ROADCHAMPS)

Kenworth Cabs	$1.65
Cab & Trailer	$2.25
Athearn wheels for cabs	set $1.15
Athearn wheels for cab & trailer	set $2.00
Athearn accessory set	set $0.70

HO VR BODY KITS

Sliding door 'U' Van	$1.50
Swing door 11½ ton 'U' Van	$1.50
16½ tn 'U', 'UB', 'UF' Van	$1.80
'GY' wagon (with sideframes)	$2.00

TRAIN MINIATURE

36' Offset Hoppers (w/load)	$4.95
36' Ribbed Hoppers (w/load)	$4.60
40' Plugdoor Box Cars	$4.95

AHM STRUCTURES

Diesel Oil & Sand Depot	$6.95
Uncle Joes Barber Shop	$9.85
Last Shop Funeral Home	$9.85
Dusty Gulch Water Station	$9.90
Ridge Pike Maint Group	$9.90

ATLAS 'N'

25 piece Pier Set	$4.25
Warren Truss Bridge	$2.85
Deck Bridge	$2.85
Plate Girder Bridge	$2.85
3 Piece Bridge Piers	$0.85

GANDY DANCER

HO Track Templates	$16.95
N Track Templates	$11.30

AND BANKCARD IS WELCOME.

ADVANCE SIGNALS

There will be a small price rise in RAILCRAFT track and rail caused by increased manufacturers prices as from the next shipment.

We will now undertake to construct transportable layouts. Contact us for details, prices etc, letting us know your requirements.

By the time this advertisement appears we should have stocks of our axleguards and sideframes suitable for use with our VR bodykits.

Beginning model railroaders are invited to write for their free copy of "Introduction to Scale Model Railroading", but please enclose a stamped addressed 150mm x 225mm envelope to cover postage costs.

SHOP HOURS of the Northern Suburbs Leading Hobby Shop are:

Mondays thru Thursdays	9am to 5.30pm
Fridays	9am to 9pm
Saturdays	9am to 12 noon

We do not subscribe to the policy of other stores of being closed when you wish to make your buys.

MAIL ORDER

We welcome your mail orders but please remember that the postage rates charged make it necessary for us to request that you pay postage.

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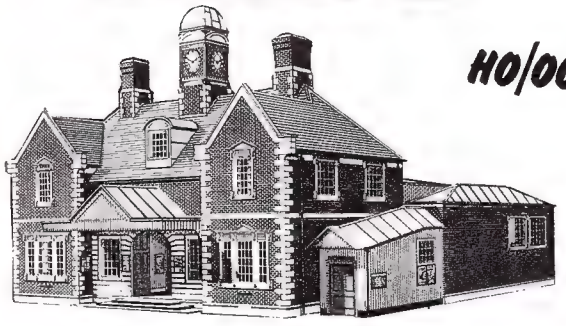

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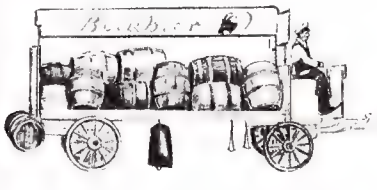

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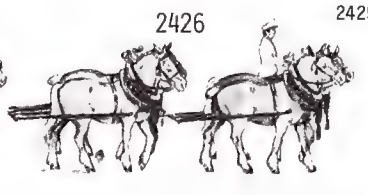

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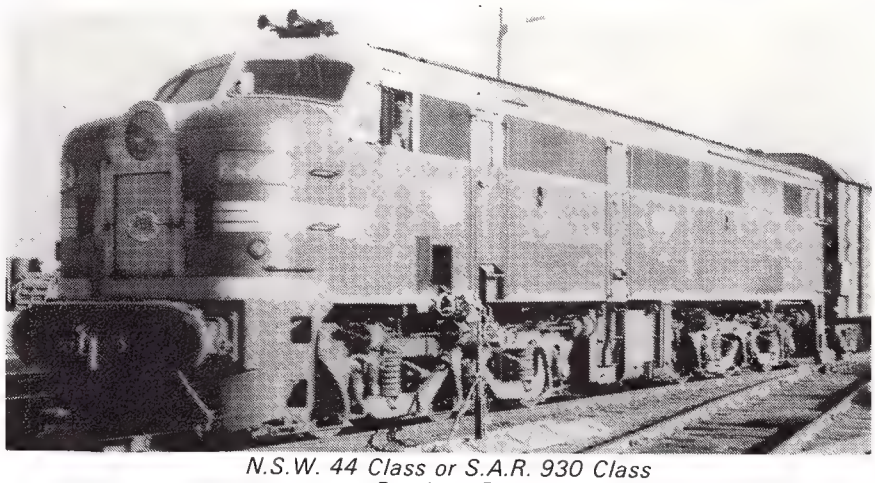

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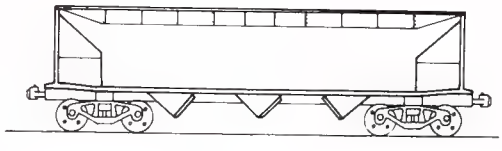

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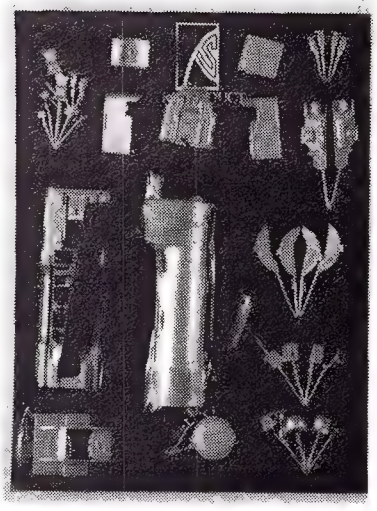

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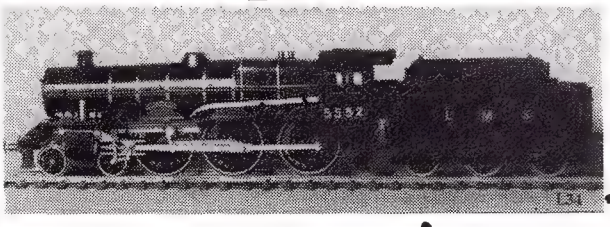

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191 of these locomotives were built between 1934-37 and could be seen on any section of the L.M.S. until the final days of steam. The kit is supplied with optional boiler fittings, etched valve gear and three pairs of etched name plates.

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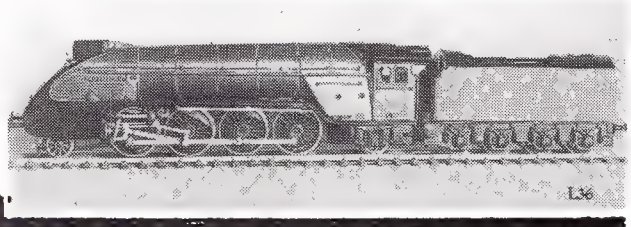
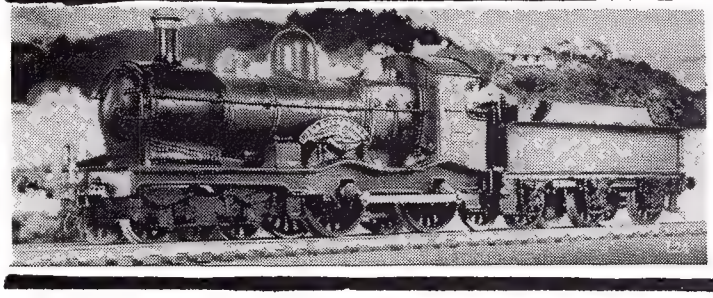
The most beautiful streamlined locomotive ever produced? A class of six, four built in streamlined form and two rebuilt from earlier experimental engines. The kit is supplied with all six name plates and full Walshaerts valve gear.





GWR 3252 DUKE 4-4-0

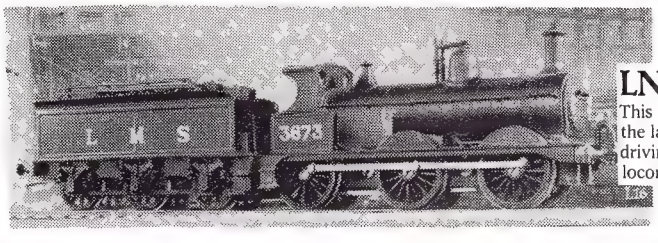
Numbered 3252-3291 these locomotives were all named and, in their early days, lined. They make an ideal shed companion to the Bulldog (Kit L. 3). The class was built from 1895 to 1899 and about half a dozen survived through to the early BR days. The model depicts the 1903 versions with the standard boiler.

GWR 28xx 2-8-0

This class of engines were introduced in 1903 and were the first 2-8-0's in the country and were probably the best ever produced. There were 133 engines, the first being scrapped in 1958, the last 1960. The model is supplied with both types of cab.

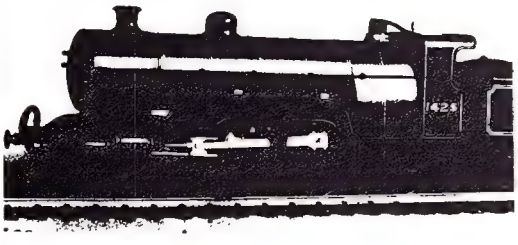
LMS JOHNSON 2F 0-6-0

When 58182 drew its last breath in 1964, the oldest locomotive still in service with BR was mourned. Over 850 of these typically Victorian engines were built from 1875 with many variations. The model represents the original version.



LNER Ex NE Y8

This quaint little 0-4-0 built in 1890 lasted through to B.R., the last being scrapped in 1956. It had only three foot diameter driving wheels and must have been one of the smallest 'main-line' locomotives ever built. A simple kit.



LNER (EX GN) ATLANTIC 4-4-2

Some 80 engines of this class were built between 1904 and 1908. They were powerful but graceful and highly thought of by their crews. Used mainly on fast passenger trains, they were generally considered one of the best pre-war locomotives. The model represents the post 1911 version and is supplied with the later LNER fittings.

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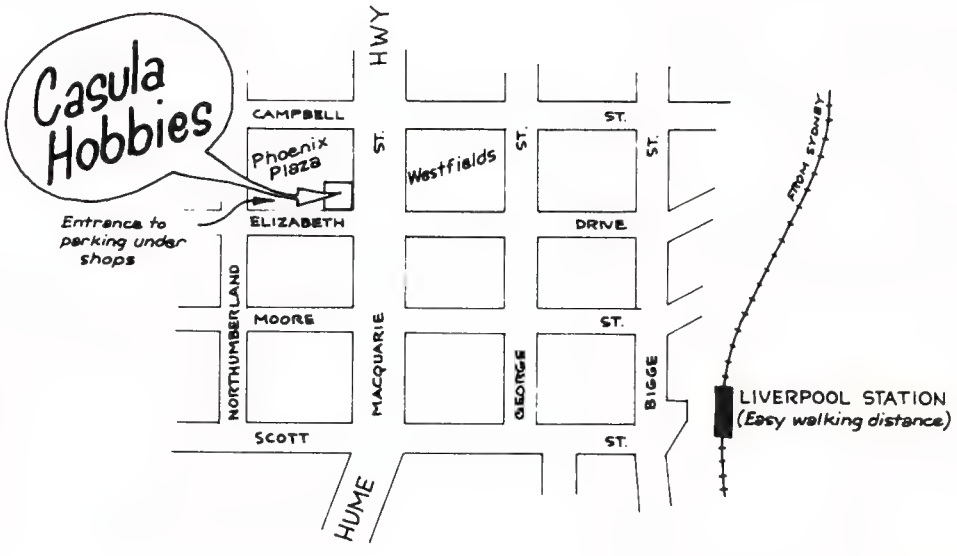

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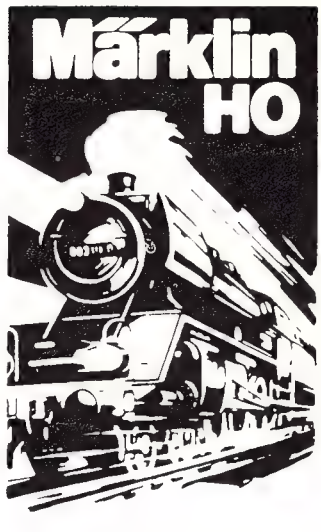

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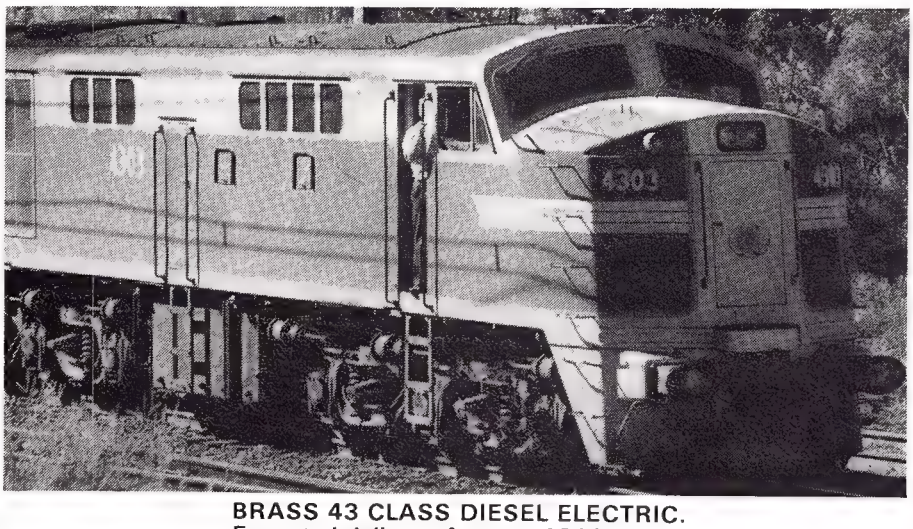

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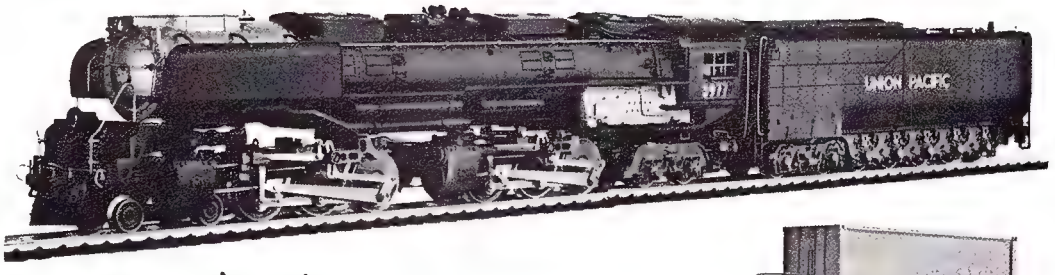
American HO/00

the mighty "CHALLENGER"



first "Challenger" type 4-6-6-4 Mallet loco was delivered the Union Pacific in 1936. The design proved so successful t, with minor modifications, it was adopted by other rail-ds. The loco was a mixed traffic class and was used on senger and freight workings on the heavy gradients in the t.

model has a powerful motor driving both driver groups ough universally jointed shafts and pendular transmissions. model is 440mm long (No. 1268 is slightly shorter at mm) with working headlight and can negotiate curves down 400mm radius.

00 Union Pacific "Challenger" with 'Centipede' tender - unlined black with silver smoke and fire box $175.00

53 Union Pacific "Challenger" with 'Centipede' tender - passenger livery in two colour grey with orange lining $199.95

68 Delaware & Hudson "Challenger" with 12 wheeled tender - black with white stripe on side $175.00

MERICAN HO/00 LOCOMOTIVES

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926	Diesel Electric EMD E8 - Double Unit Santa Fe - red & silver	$99.95
927	Diesel Electric EMD E8 - Double Unit Northern Pacific - green & chocolate	$99.95

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2768	Pullman Car - Baltimore & Ohio - blue & grey	$12.50
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2250	Gondola - Union Pacific	$8.95
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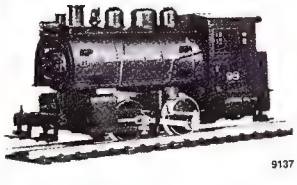
2311	O.T. Box Car - California Fast Freight	$7.50
2313	O.T. Gondola - Virginia & Truckee	$7.50
2316	O.T. Flat Car with tanks - V. & T.	$7.50

MERICAN SET

222	"Crescent Limited" - Pacific Loco with Combine, Diner, Pullman & Observation cars all in green livery	$155



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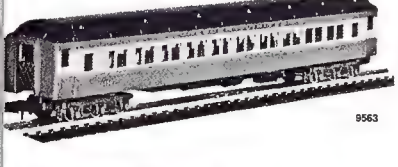

9563

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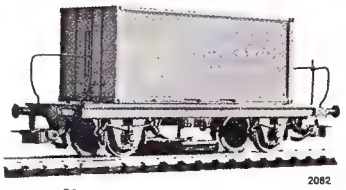
No. 2082 Flat Car with 20 foot container. The container conceals a heavy brass tank which holds the cleaning fluid. Fluid flow to the felt cleaning pad which rubs on the rails is controlled by a screw.
.. .. $22.50



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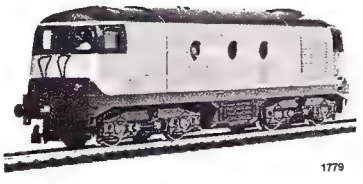

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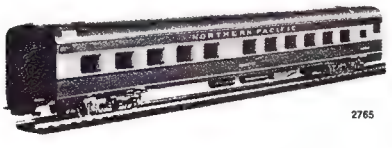

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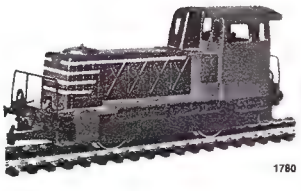

1780

Continental HO

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9531

N Gauge

a mixed bag

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N gauge, US prototype only and Peco track, see previous issue and For Sale column. (02) 709 8656.

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MINT BOXED HOn3 brass locos. 2 only 'WESTSIDE' C16 — $210 ea; 2 only 'Key' C17 fitted with diamond stacks — $250 ea; 'Key' C18 — $160; Westside K27 modern slide valve — $260; Westside K37 — $350; 2 only 'Custom Brass' C21 — $160 ea; Westside 'Durango Express' set — $500. Ian Ballinger. 26 Honour Ave, Lawson. 2783.

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HORNBY O cable drum wagon, cattle truck & No. 2 single arm signal mint in boxes $50. Dublo 2 rail 2232 Crepello, spare body & brake van $30. Minic clockwork mechanical horse and trailer boxed mint $25. Matchbox models 1953-66 mint in boxes including all military from $6 to $30 ea. Triang working hopper wagon set in box, mint except wagon has been weathered, also large book collection for sale. Please note that I will swap N for any of the above — see wanted column. Ring (02) 709 8656. Bankstown NSW after 6 or weekends.

Three Brand new Atlas N scale GP9's. Unused $25 each. Call Sydney 726 6571.

HORNBY HO streamlined Coronation loco $35. Inter-City coaches $7, Trapdoor coal hoppers $4, Lima articulated Italian Mountain loco $28. B. Mumford, Dee Why. (02) 98 9100.

HAMMANT & Morgan Powermaster variable transformers (2), imported, never used, $50 ea. G.P.O Box 578 Sydney 2001.

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WRENN, Hornby Dublo, Triang, Lima locos, rollingstock, track, spare parts, bits and pieces. SAE for list. Alan Lee, 12 Simmonds Street, Kings Langley, NSW 3147. (02) 624 2171.

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Collectors item Historic Model, Mantua 0-4-0 Camel back loco and tender. Combined die cast and brass shapes model from around 1950, not mint condition, has some dents, but in good condition and goes, have cleaned off my crook paint job. $70 sent registered mail. Gus Durham, 44 Kenny St, Bassendean W.A. 6054.

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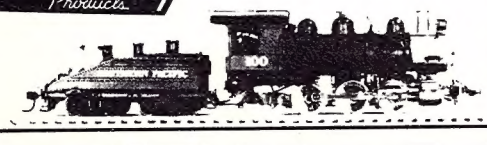

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ST-205 Setrack Isolating Unit with switch
Straight track section 168mm long

CODE 100 FINE (Insulfrog) POINTS
Because of the finer wheels now being fitted to most makes of ready to run model railway equipment, PECO have introduced the Code 100 Fine range of points & crossings. These are specially designed to give high standards of reliability and smooth running. They incorporate all the well known features of the universal points except that the flangeway clearances are made to suit the finer wheels.

SL-686X Curved Right Hand Point
SL-687X Curved Left Hand Point
Outside Radius 1524mm Inside Radius 762mm

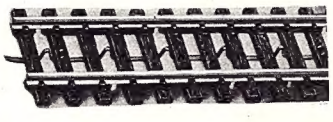
SL-688X Large Radius Right Hand Point
SL-689X Large Radius Left Hand Point
Radius 1524mm, length 258mm

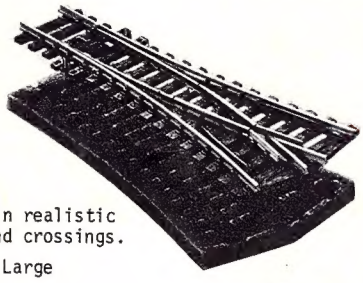
SL-697X Short 'Y' Point
610mm radius

SL-698X Long 'Y' Point
1820mm radius

STUD CONTACT STRIP
When fitted under track it provides the necessary electrical stud contacts required for the Marklin system
SL-17 for track SL-18 for points & crossings

HO/OO





BALLAST UNDERLAYS
Flexible moulded foam ballast underlay in realistic brown colour in units to match points and crossings.

SL-55 Ballast Underlay to suit SL-88X - Large Radius Right Hand Point
SL-58 Ballast Underlay for Double Slip
SL-61 Ballast Underlay for R/Hd Catch Point
SL-62 Ballast Underlay for L/Hd Catch Point
SL-68 Ballast Underlay for Long 'Y' Point
(Ballast Underlays are available to suit all PECO points)

WAGON PARTS

R-5 Insulaxles - metal wheels can be mounted on these axles which provide the necessary insulation for two rail operation. Not suitable for locos.

R-10 Wagon Wheels - 8-spoke 12mm diameter - suitable for use with Universal track or tracks to N.M.R.A. or B.R.S.M.B. standards. Made from a special plastic which should not be confused with ordinary plastic.

R-15 Special friction free bearings for use with the above wheels. The small size enables them to be installed in most axle boxes.

R-18 Moulded in the same plastic but with plain axle ends - 10-spoke 16mm diameter. Use with Peco Brass Axle Bearings - R-30

R-28 Wagons used in fast freight service must be fitted with vacuum brakes and steam pipes. This kit contains all the essential visible parts. Suitable for use with 9ft and 10ft wheelbase wagons.

STATION ACCESSORIES

LK-21 Chocolate Vending Machines supplied in a pack of six - three red, three green. The window moulding indicating number of bars left should be painted silver.

LK-22 Weighing Machines - Pack contains two personal and two for parcels. Two parts for each machine with printed paper dials.

SIMPLEX COUPLERS Mark 1
The original metal version of the Simplex coupler. For use with mechanical uncouplers. Can be used in conjunction with early Hornby Dublo and Trix.
R-1 Coupler complete with bracket in blackened steel
R-2 Coupler Hook only in blackened steel
(Also used for O-16.5)

UNCOUPLERS
For automatically uncoupling locos and rolling stock. While designed for Peco tracks they can be used with other makes.

SL-30 For use with R-1, R-2 and O-16.5
SL-31 For use with the original Trix type couplers

N GAUGE

STONE PLATFORM EDGING

NB-28 Fully detailed, coloured moulded plastic sections- allow construction of curved or straight platforms sections 145mm plus fixing tag.

ROAD OVERBRIDGE

NB-33 For single track - simulated stone bridge sides moulded in grey plastic, supplied in pairs with separate wing walls for optional use. These bridge sides have many uses.
(Also available for double track - NB-34)

WHEELS & COUPLERS

NR-100 Hardlon mouldings - wheels on axles

NR-102 'Elsie' - E.L.C. - type couplers - Hardlon mouldings - couple with Rapido and other N types.

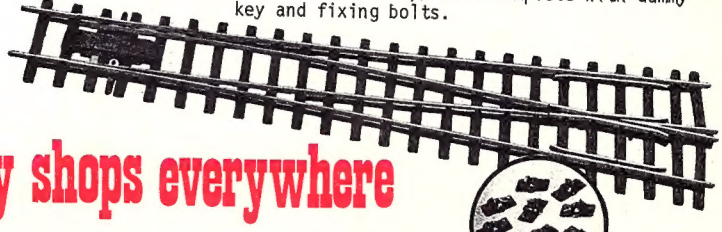
CHASSIS KITS

NR-121B Brake Van Chassis - 10ft wheelbase
NR-123 Wooden type solebars, specially for old time wagons - 10ft wheelbase.
Kits are complete with underframes, wheels, weights, 'Elsie' couplers etc.

O Gauge

SL-797X Medium Radius 'Y' Point - radius 1520mm - a valuable space saver

SL-702 Running Rail Chairs, also used for check rails, moulded in brown plastic complete with dummy key and fixing bolts.



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